Workstream:

Project STaRS

Project STaRS / TMT Work Group

GROUP MISSION STATEMENT

Increase reliability, validity, and accountability in STIP scheduling through consistent, across-the-board usage of Project STaRS and making it the primary "scheduling and reporting tool of choice" for the Department.

ISSUE ASSIGNMENTS FOR RECOMMENDATIONS

(Text shown in small Italics is from previous meeting minutes.)

DASHBOARD VALIDATION

Review Preconstruction Dashboard criteria – Stan & Greg (discuss w/ Vineet Gupta)

(One question we may need to address ... Is the Preconstruction Dashboard criteria too rigid? Is it pulling a project into the "red" that is funded in the later years of the STIP that may not need to be red flagged at this time?)

- How can we report the "original" R/W / Let dates to show on the dashboard? Stan & Majed
- Scheduling philosophy & mindset Jimmy & Stan

(Managers are instructing their employees to make the dashboard "green" and keep them off of the Problem Project List. This can be simply done by constraining certain key milestone dates in the forecast schedule to match the basic schedule and it gives managers what they want...green. This is not how the system should be used.

Mindset change – "Tracking the status / schedule of the product delivery is a equally important as delivery of the product itself."

It was brought up that some units and groups are using other programs to track project schedules / data and considering SAP R/3 as a secondary database. This mindset needs to change. We need to make sure others are not using other programs to the detriment of STaRS.)

 Use of STaRS networks for STIP development (STIP accountability) – Brian & Burt How does outsourcing factor into this?

Conversations need to occur with Al Avant's group. (Due to inconsistent upkeep of activities in STaRS, Co-Project Managers are having to constrain dates to make certain milestones "hit" where they think they should to meet the STIP funding dates. The STIP should be using STaRS to indicate when projects should be funded instead of the reverse.)

CONSISTENT, ACROSS THE DEPARTMENT USAGE

 What recommendations can we make to encourage or to force usage? – Greg & Brian How can we track and report usage? By time charges reporting ...or by using status reports? – Stan

We need to send out a message that users need to be proactive instead of always reactive. (Jimmy Norris estimated that overall system usage was at 35% +/-. Jimmy was asked could we track usage by each unit or group and report this information...maybe publish it for everyone to see and hopefully increase usage through competition.

Time charges are another issue that needs addressing. Employees working on STIP projects should be charging their time to the activity or activity element level. Lack of time charges to this level does create issues with the project schedule and thus the overall reliability. If necessary, steps can be taken to keep employees from charging to WBS elements.)

 What other SAP functionality is afforded us once we have reliable schedules in the system; i.e. resource tracking, etc.? - Stan

MANAGEMENT SUPPORT

How do we get managers more engaged with STaRS issues? – Ron, Mark, & Majed

We need to get managers from other groups outside of PDEA and Roadway Design to understand that their roles in Project STaRS are just as important and push this message down to all users within their groups.

We must not forget IT management in this engagement effort. It is critical that change requests (CR) and technical support issues are quickly addressed to make Project STaRS effective.

How do we gain management support of a PSO? – Ron, Mark, & Majed

(Formal policies & procedures regarding Scheduling / Project STaRS is virtually non-existent today. A schedule change process developed a few years ago is not being adhered to. Formal policies & procedures are needed to provide consistency, accountability, and uniformity.

A disconnect exists between what users of the Project STaRS have to deal with on a daily basis compared to what upper level managers expect from the system. A workshop for upper level managers is needed to discuss the issues and agree on policies / procedures.

We need to find out what tools do managers need to help validate the information being reported on in STaRS.)

"PROJECT STARS" OFFICE (PSO)

 Develop white paper describing duties and staffing needs of office – Ron, Mark, & Majed

We need to include the white paper that the staff in the "Project STaRS" Office needs to have the proper IT roles for testing and development (QAS, DEV, etc.) Jimmy and Stan are going to develop a list of these roles that are critical.

The white paper should also be clearer on the list of skills needed for this office. Project management background, project development knowledge, SAP R/3 skills, etc.

Need to include possible future staffing needs beneath each of the managers.

Add to benefits of office - Increase Project Delivery Performance.

(The group discussed the pros/cons of a Project STaRS Office. One point that we all agreed upon is that Co-Project Managers desperately need assistance with the tedious tasks associated with ensuring the data needed for an accurate schedule is kept up-to-date. This includes such things as making sure Activity Managers are confirming completed activities, technical issues with the system, rescheduling forecast schedules on a consistent basis, etc.)

TIMELINE FOR RECOMMENDATIONS

A list of action items and target dates will be sent out separately from these minutes. Time expired before the group had a chance to discuss this issue.

Item	Due Date
"Project STaRS" Office proposal to TMT	TBD
"Project STaRS" Office proposal to LT	TBD
Compile All Group recommendations	TBD
Review recommendations with TMT	TBD
Review recommendations with LT	TBD
Manager Workshop	TBD







PROJECT STARS

(formerly PMii)



TEAM MEMBERS

Ron Allen (Team Lead)	Assistant State Roadway Design Engineer, currently serving on the Performance Metrics Team of the TMT
Jimmy Norris	. Currently under contract with the Program Development Branch, Retired with 30 years at NCDOT, working several years as a Project Engineer in the Roadway Design Unit
Stan MacIntyre	. SAP Consultant currently in the BSIPS / Project Systems group of IT
Majed Al-Ghandour	.Assistant Branch Manager-Program Management in the Program Development Branch
Brian Yamamoto	PDEA, Consultant Engineer Unit Head
Greg Brew	Project Engineer, Roadway Design Unit

TMT Oversight Mark Tyler & Burt Tasaico



FACTS ABOUT PROJECT STARS (PMii)

- PMii development started May 2001
- "Go Live" date for PMii was May 17, 2004
- \$10.4 million was spent during the development phase
- An additional \$2.2 million has been spent on change requests (CR) and support through BSIP.
- \$1.0 million was allocated for consultant support through a Program Development contract for 2006 - 2008. (Only one consultant remains on this contract)
- What is not reflected in the above costs is the effort from DOT staff members who were not on the PMii team but were involved in the development, testing, change requests, enhancements, user group meetings, and training.



FACTS CONT'D

- October 2004 Len Sanderson told Preconstruction staff that use of PMii was a job requirement and if they could not meet this requirement they may want to look elsewhere for employment. To date, many have reflected on this as an empty threat.
- On April 27,2007, the name for PMii was officially changed to "Project STaRS" (Scheduling, Tracking, and Reporting System).
- "Project STaRS" is a SAP R/3 product using critical path scheduling intended to provide the NCDOT with a centralized, integrated schedule management tool by allowing input from numerous groups across the Department.

R/3 stands for "Real Time, 3 tiered"....in other words, it is IT lingo that shouldn't concern you.



July 2004 Dye Management Report said...

"NCDOT senior management, technical managers, and project managers have differing understandings and expectations about the outcome from PMii..."

 "Study findings raise strong concerns about NCDOT's organizational readiness to use PMii."



Dye Management Recommendation 8.1

- "Conduct an expedited organizational readiness assessment; then establish and implement a change management plan for PMii."
 - Changes in business practices for PMii should be defined and implemented
 - Where changes in work performance and procedures are necessary for PMii to provide the basis for project delivery scheduling and execution, a plan for expedited implementation should be established
 - Strong consideration should be paid to making the recommended Program Management Office the business owner for PMii and associated project scheduling support.



Dye Management Recommendation 8.2

 "Design and implement a reporting system for program and project management monitoring and control."

- ► The recommended approach is to monitor the status of projects against no more than seven major milestones and to provide exception level reporting.
- ► The system would require all project managers to measure and report status using a consistent methodology at these milestones.
- ▶ In addition, summary-level project status information should be provided on NCDOT's website like Virginia does with their "Project Dashboard."



Dye Management Recommendation 8.3

- "Stabilize the use of PMii to support scheduling, establish a management-level reporting system before further adding to PMii or instituting other information technology projects."
 - ➤ This recommendation will enable the PMii team to focus on production support and enable NCDOT to use a project scheduling system effectively. It also recognizes that any further information technology initiatives should be business-driven with quantifiable benefits based on the reduction in cost and project delivery time.



NCDOT PROJECT DELIVERY STUDY: STATUS REPORT (11/05)

Recommendation 8.1: Conduct an expedited organizational readiness as a supply the property of the property of

PMii implementation has begun. Work activities are being confirmed within the system and full usage of this scheduling tool occurred with the approval of the 2006 2012 TIP

Recomplement of the period of the property of

An executive reporting tool is being reviewed...

Recommendation 8.3: Stabilize the use of PMii to support scheduling, establish a management-level reporting system before further adding to PMii or instituting other information technology projects.

PMii implementation has begun. Scheduling is under way and PMii is being used to schedule projects in the 2006-2012 TIP. Next addition to the PMii is targeted for an executive reporting system and insertion of division-managed projects.



July 2007 PBS&J Report said...

- "(Project STaRS) is only as good as the data and information that goes into it and only if it is used to track projects, identify problems, assist resolution of those problems, and identify an owner (or owners) of the project. Accountability for project delivery can then be benchmarked, measured, and assessed."
- "(Project STaRS) will also allow an Executive Reporting system so that NCDOT can pursue making high-level information regarding project status, program status, etc., available to both internal senior managers and external stakeholders (e.g., legislative leaders and the taxpayers of North Carolina)."



PBS&J Report cont'd...

"Begin to use (Project STaRS) both as a projectmanagement tool and as a broader reporting mechanism. This can be achieved easily within the next 6 months, as a technological challenge, if there is a leadership focus and commitment to it."

 NCDOT's (Project STaRS) will provide similar capabilities(as Virginia's Dashboard), but it has been slow in reaching operational capability."



MISSION

Increase reliability, validity, and accountability in STIP scheduling through consistent, across-the-board usage of Project STaRS and emphasize that it is THE scheduling and reporting tool for the Department.

MAJOR ISSUES TO ADDRESS

Dashboard validation

Consistent, Across-the-Department Usage

Management Support & Engagement

MAJOR ISSUES TO ADDRESS

Dashboard validation

Consistent, Across-the-Department Usage

Management Support & Engagement



BASIC SCHEDULE

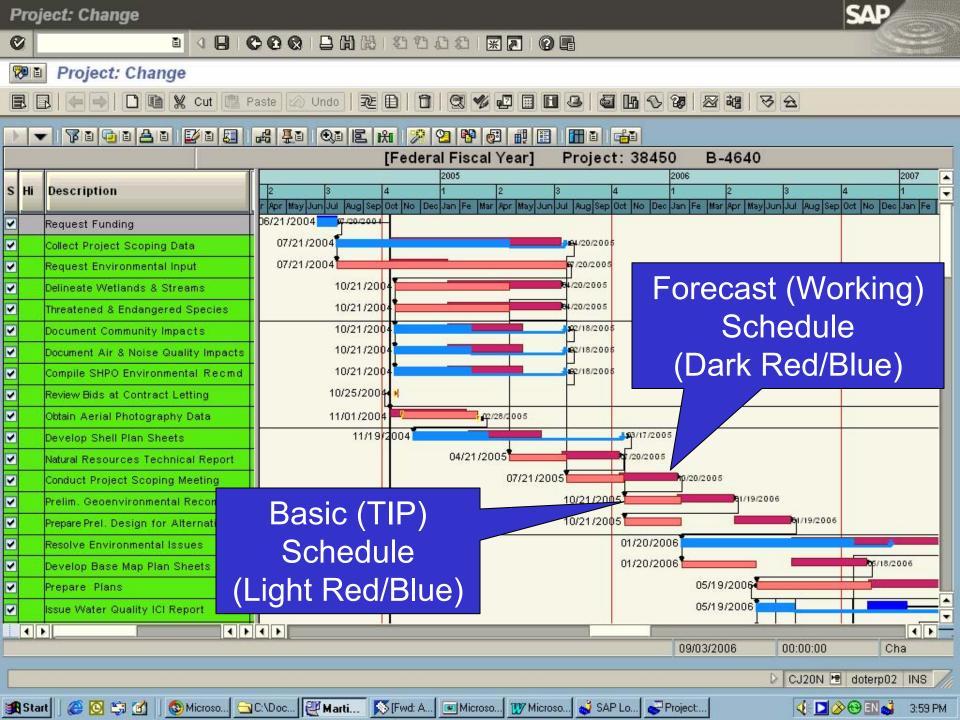
- ► Represents the TIP Schedule and / or the latest approved schedule
- ► This is the schedule of activities that **EVERYONE** should be working towards
- ► Currently updated in SAP R/3 by Program Development via a formal schedule change process

RETURNING TO THE BASICS...



FORECAST SCHEDULE

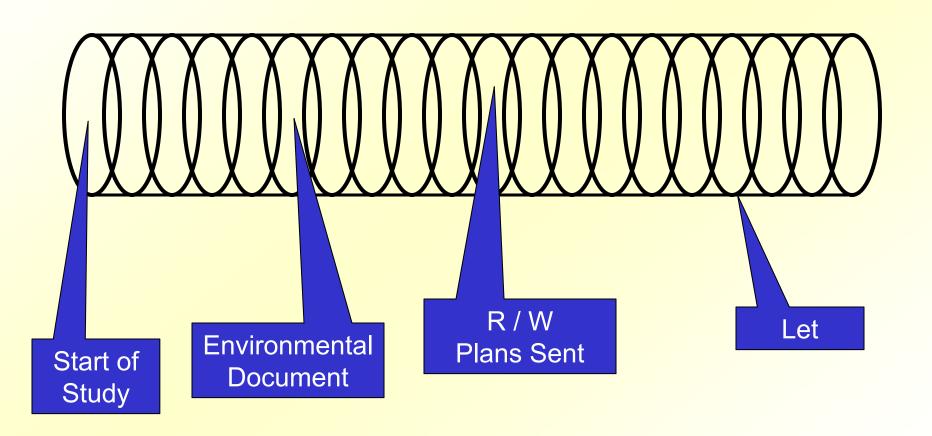
- ► Used to maintain schedule data, i.e. activity completions, forecast completion dates, estimated activity durations, actual milestone dates, work center assignments, etc.
- Represents the current schedule status....basically it is the "heartbeat" of the project schedule and should be viewed along with the Basic schedule to get a true picture of the project status.
- Maintained in SAP R/3 by Co-Project Managers & Activity Managers.





Scheduling Basics

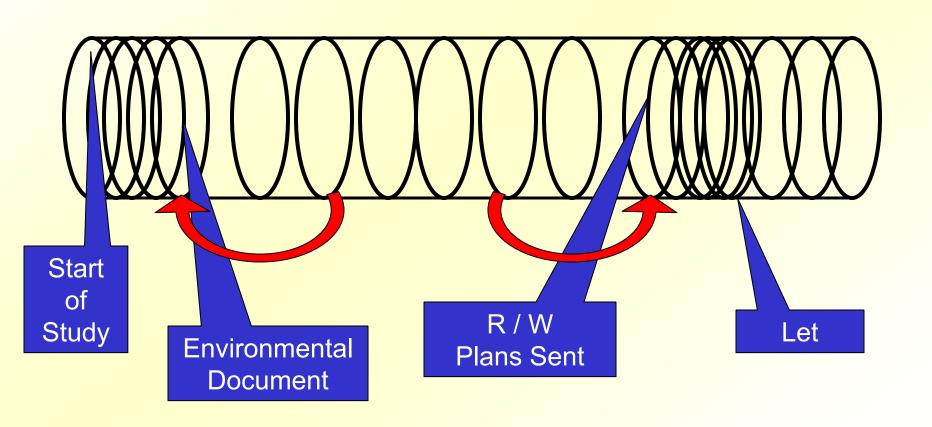
An unconstrained project is like a spring in equilibrium





Scheduling Basics

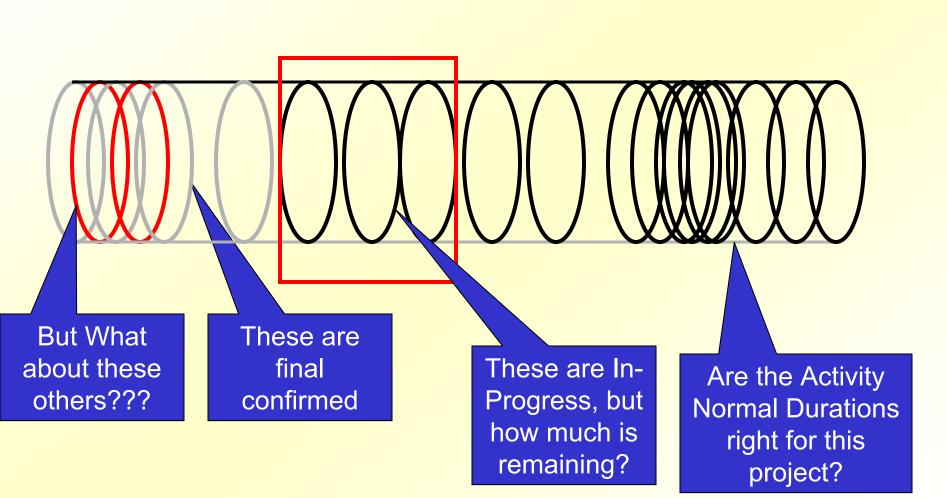
 We have found that date constraints have moved the spring so that it is too tight (negative float) in some parts and too loose (excess float)in others.





Scheduling Basics

To get good results, we need good information





Preconstruction Dashboard

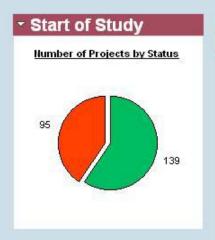
In its current configuration, the Preconstruction Dashboard compares the "drift" between the Basic & Forecast schedules between four major milestones:

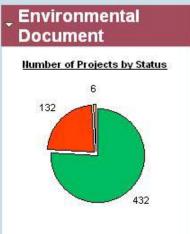
- Start of Study
- Environmental Document
- R/W Plans Sent
- Let

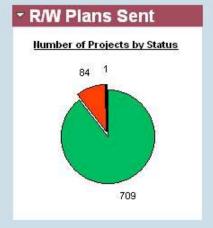


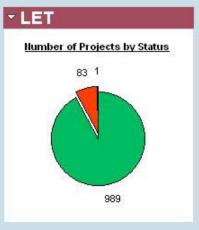
Preconstruction Dashboard

Pre-Construction Project Schedule Status









PDEA CoPM	(All)	Design CoPM	(All)
Type of Project	(All)	TIP Let Fiscal Year	(All) Range
Di∨ision	(All)	Funding Source	(All) 💌
County	(All)	Status	(All) Submit

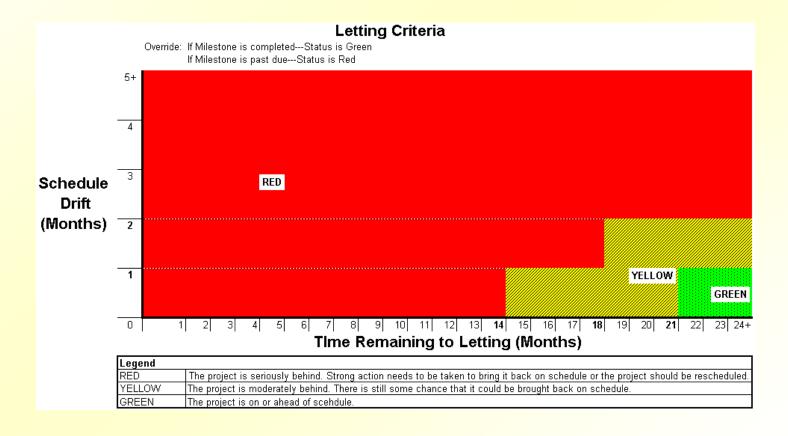
Home Funding Status Individual Project

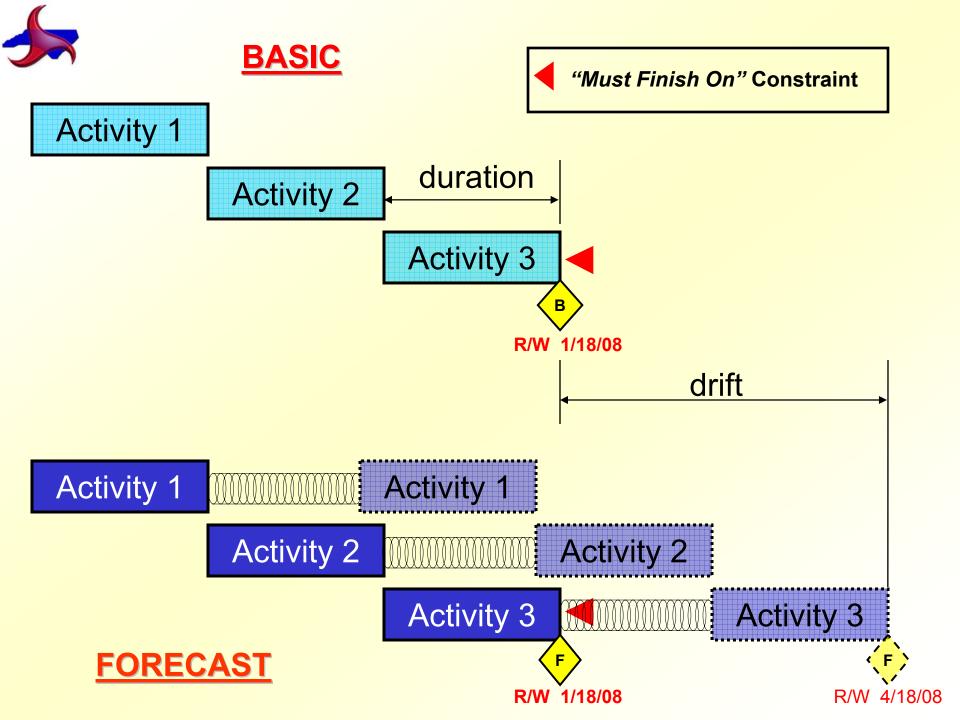


Preconstruction Dashboard



The "drift" between the Basic and Forecast dates on key project milestones determines whether the project schedule is in a red, yellow, or green status as defined by certain predetermined parameters.

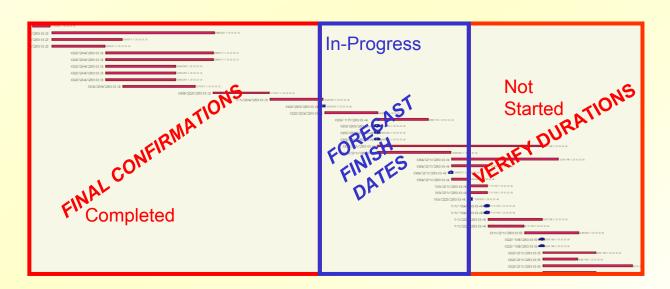






There are only two reasons that the Basic and Forecast Schedules should drift apart ...

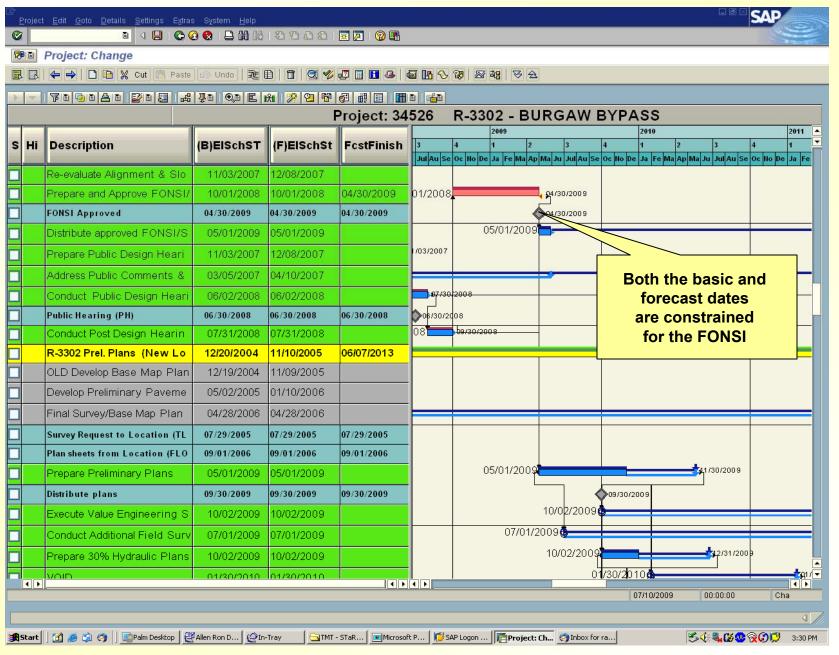
- (1) The project is truly behind schedule due to heavy workload, resource issues, poor project management, etc.
- (2) Poor schedule upkeep & data maintenance in Project STaRS.



WE NEED TO CORRECT ITEM 2
BEFORE WE CAN MANAGE ITEM 1

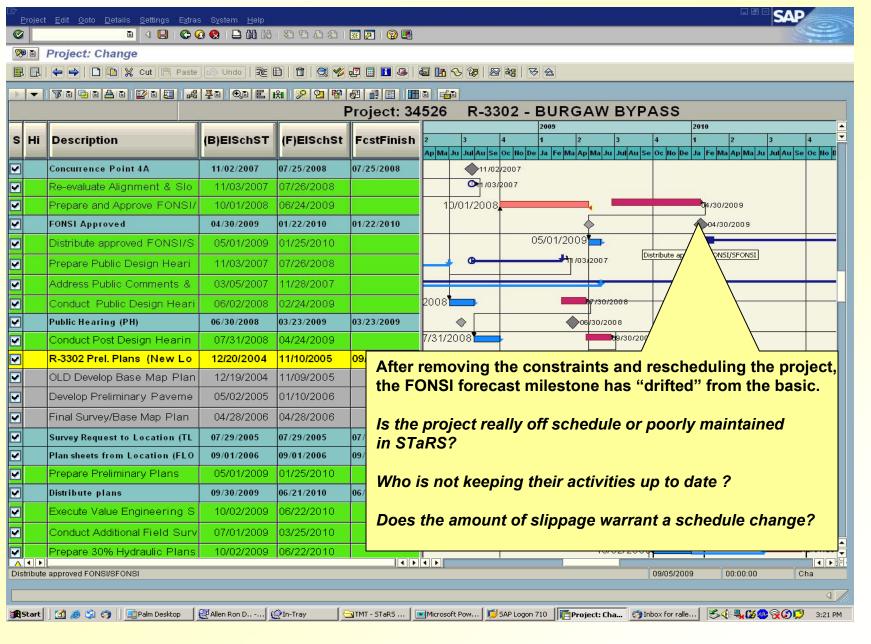


EXAMPLE - DOCUMENT MILESTONE



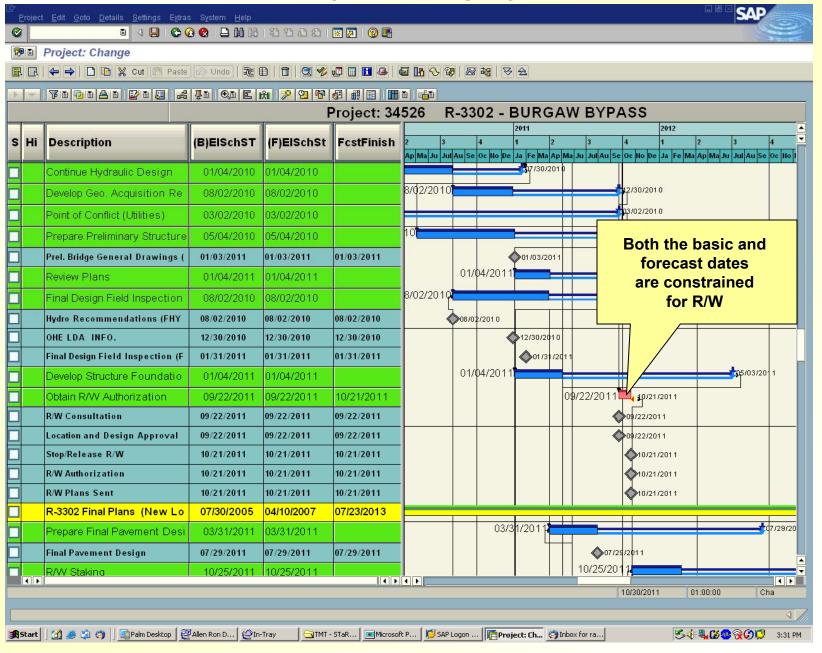


EXAMPLE - DOCUMENT MILESTONE

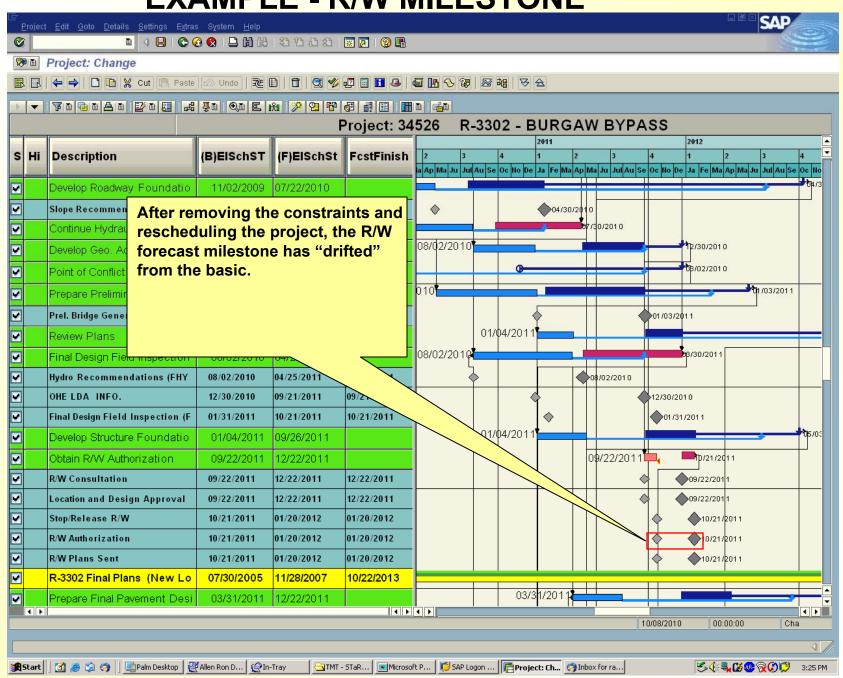




EXAMPLE - R/W MILESTONE



EXAMPLE - R/W MILESTONE



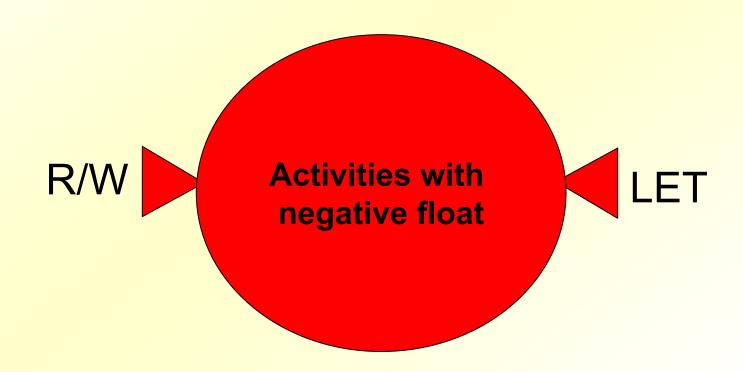


Constraints work like a balloon tied on both ends with too much air....



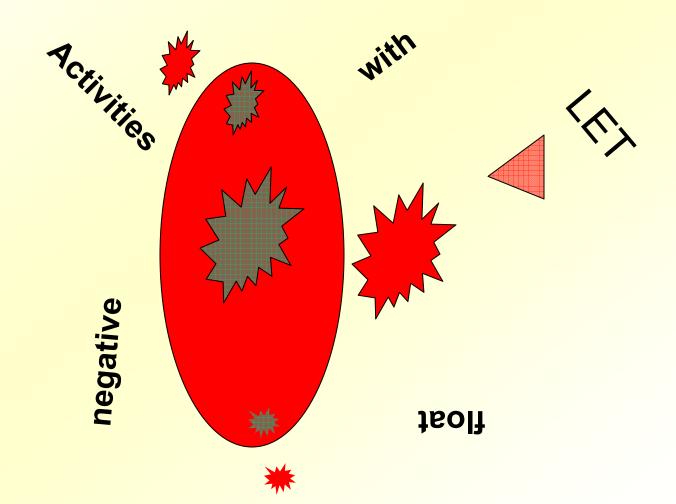


....eventually something has got to give.....





POP!





...or in other words...

"You can't get 10 lbs. of poop in a 5-lb. bag."

- Stan MacIntyre
SAP Guru

MAJOR ISSUES TO ADDRESS

Dashboard validation

Consistent, Across-the-Department Usage

Management Support & Engagement



USAGE PROBLEMS

- The lack of consistent usage and enforcement of data maintenance is a major concern expressed by many users.
- Activity Managers are not consistently confirming completion of activities and activity elements
- Activity Managers are not consistently inputting forecast completion dates for activities that have started
- Unofficial estimate places overall usage at approximately 35%



USAGE PROBLEMS

- Time charges to the Activity and / or Activity Element level are not being done consistently. This has impact on schedules and the ability to use the system for resource planning.
- Many users feel they lack the necessary understanding of how to use the system and feel that the system is too complex.
- Co-Project Managers have become more like schedule managers instead of project managers.
- Some units or groups are using other tools for scheduling and work planning and "Project STaRS" is considered secondary.



USAGE PROBLEMS

- Activity Managers don't fully understand their role in Project STaRS.
- Many managers are not holding their Activity
 Managers accountable for lack of usage due mainly to their own lack of understanding of how to track and report usage.
- Initial training efforts covered too much information and did not target the specific needs of the users.
 Future training should target those areas and issues that consistently plague the system.



Consistent, Across-the-Department Usage

- Non-compliance is unacceptable and should be strongly voiced by Branch Managers, Unit Heads, and other managers throughout the Department.
- Management should be reviewing information contained in the system by requiring "unedited" customized SAP R/3 and / or Business Intelligence (BI) reports. These reports should be used in schedule review meetings or other project meetings, i.e. planning document, 6 month R/W, 12 month let review, yearly TIP scheduling, scoping meetings, etc.

MAJOR ISSUES TO ADDRESS

Dashboard validation

Consistent, Across-the-Department Usage

Management Support & Engagement



Management Support & Engagement

Managers MUST...

- Begin using SAP R/3 and BI reporting to assist them with monitoring Project STaRS data maintenance and project schedule status.
- Convey to staff that Project STaRS data should always be up-to-date and strictly enforce a policy that non-compliance is unacceptable.
- Convey mindset that tracking the status and schedule of the product delivery in Project STaRS is a equally important as delivery of the product itself.

Remember...

"You can't manage something you can't measure."



RECOMMENDATION :

New scheduling philosophy

Findings

The Preconstruction Dashboard artificially shows many projects in a "green" state. Co-Project Managers feel forced to constrain certain key activities in the forecast schedule to match the basic schedule due to poor data maintenance and low usage by Activity Managers.

Recommendations

A new scheduling philosophy needs to be communicated.

- ▶ No constraints should be used in forecast schedules except (1) when a "Cannot Start Before" constraint is appropriate and (2) during the short period of time when a schedule change has been approved and the approved forecast will over-write the basic.
- Unconstrained forecast schedules need to be rescheduled on a routine basis (no greater than 3 months) to allow the dashboard gauges to stay current.

<u>Implementation Strategy</u> Begin April 1, 2008

A formal policy should be prepared implementing this scheduling philosophy beginning April 1, 2008 when the current STIP scheduling updates are scheduled to be completed. The TMT / PS subgroup should begin drafting the policy so that it can be presented at a Co-Project Managers workshop planned for mid-March, 2008.

Evaluate dashboard criteria

Findings

Should projects be flagged as "red" on the dashboard when they are funded for R/W and Let in the later years of the STIP?

Recommendations

The dashboard criteria and filtering should be revisited.

One possible solution is to only evaluate the key milestones when they occur within a certain timeframe...say 4 years out.

For example...let's say an environmental document is scheduled for completion next year, but shows up red because it has drifted 4 months. The letting for one section of the project is in 2013 and based on the current criteria it would show up red also.

Should milestones this far out be included on the dashboard?

Implementation Strategy

The TMT / Project STaRS work group will continue to work with the BI Team in IT.



RECOMMENDATION :

Schedule change history database

Findings

"The Department of Transportation should classify and accumulate details related to schedule delays experienced during preconstruction. Managers should periodically review results, identifying categories with the greatest frequency and amount of schedule delay for further analysis."

- January 2008 Performance Audit

Recommendations

The TMT / Project STaRS work group recommends that an SAP R/3 database be created that tracks the schedule change history for all projects using the same category abbreviations used in the audit. This will allow future audits to be generated more quickly and efficiently.

Implementation Strategy

The TMT / PS work group will work with Program Development to ensure that this effort is initiated and coordinate with the Project STaRS Office (Recommendation #7) to make it the ultimate "owner" of this database.

A change request (CR) has already been made to the BSIP team requesting that entry fields be created in SAP R/3 allowing recording of the "original" funding years for Right of Way and Letting

Findings

Some units and groups are using other programs and databases to track project schedules and consider SAP R/3 as a secondary database.

Recommendations

This mindset needs to change. We need to make sure others are not using other programs to the detriment of Project STaRS.

Project STaRS should be the Department's only preconstruction scheduling and reporting system.

Implementation Strategy

A half-day workshop for Executives and upper management will be held in mid-February 2008 prior to the Co-PMs workshop in March to convey approved TMT recommendations concerning Project STaRS. This mindset that Project STaRS is the only preconstruction scheduling and reporting system needs to be strongly emphasized at this workshop.



Findings

No formal processes to use Project STaRS networks exist for the development of the STIP.

Recommendations

NCDOT should move toward a more realistic approach to the creation of the STIP funding dates by using the Project STaRS Standard Networks as a starting point.

For the projects that are programmed inaccurately without the benefits of the STaRS standard networks, PDEA and RDU Co-managers are constraining dates to fit the STIP programmed dates.

The scope and issues of each project is different from the other thus accurate schedules usually can't be established until after a project is scoped. However, the standard networks in Project STaRS represent the base project development timeline for different project types, i.e. widening, new location, bridge replacement, etc. The TIP Development Unit should use this information as a starting point to establish the ideal STIP dates.

Implementation Strategy

The Project STaRS Office, if established, should work with the TIP Development Unit to establish policy on how to implement Project STaRS standard networks into the STIP development. These policies would require an education and "buy in" process for Board Members, MPOs, RPOs, etc.

Workshop for Executives & Managers

Findings

A disconnect exists between what users of the Project STaRS have to deal with on a daily basis compared to what upper level managers expect from the system.

Recommendations

A workshop for Executives and upper level managers is needed to convey what the issues are with Project STaRS and share the approved recommendations from the TMT.

Implementation Strategy

A workshop should be scheduled for mid to late February 2008.



RECOMMENDATION #7

Create a "Project STaRS" Office

Without it... our multimillion \$
investment
is like money down
the drain





RECOMMENDATION

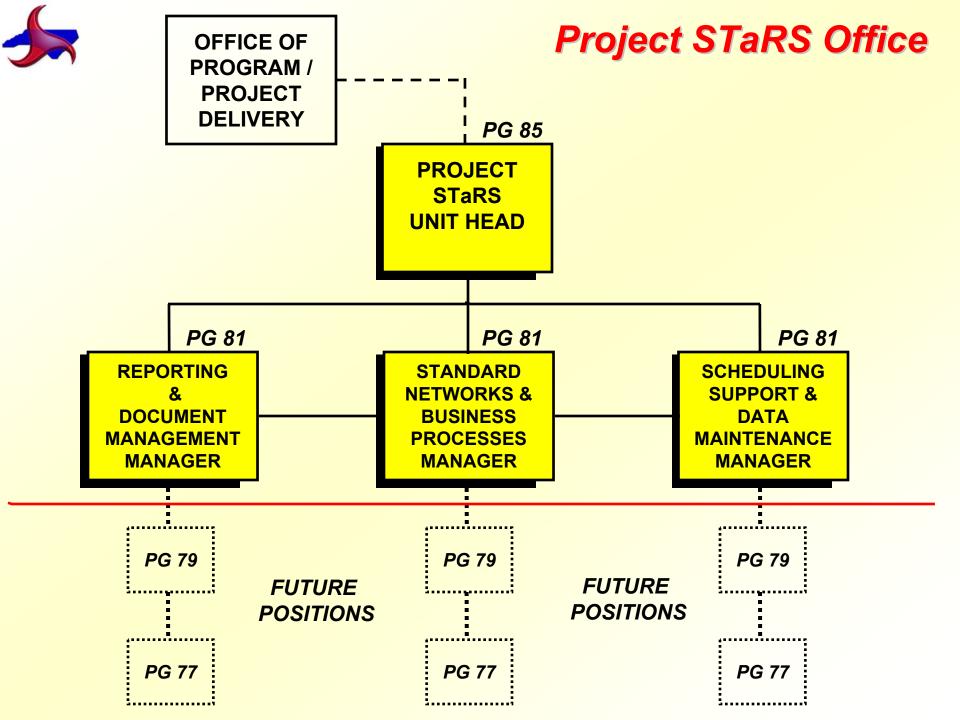
Create a "Project STaRS" Office

Findings

Currently there is a perception amongst the Project STaRS users that there is no one true "owner" of the system. Even though Project STaRS allows numerous activity owners to feed it data and it utilizes a Co-Project manager approach to take ownership of the schedule, there is inconsistent across-the-Department usage, no accountability for lack of usage, uncertainty as to the validity of the schedules, and no formal policies and procedures.

Recommendations

Create a full-time "Project STaRS" Office (PSO) staffed with individuals dedicated to sustain our multi-million dollar SAP scheduling product. These individuals must have both a good understanding of DOT's current project development process and sound SAP R/3 knowledge.





DUTIES OF A "PROJECT STARS" OFFICE

SCHEDULE TRACKING & OVERSIGHT

"POLICE" USAGE OF THE SYSTEM

INVOLVEMENT IN BUSINESS PROCESS CHANGES

PROVIDE SUPPORT AND TECHNICAL ASSISTANCE

POLICY & PROCEDURES



SCHEDULE TRACKING & OVERSIGHT

- Monitor and validate the Preconstruction Dashboard information
- Track the schedules of key projects in the Department and provide monthly status reports to the appropriate upper level managers and Project Executives
- Maintain and track the schedules of all projects by monitoring schedule "drift" between the Basic and Forecast schedules
- Track "staleness" of forecast schedules utilizing an aging report, reschedule as needed (at least once every three months), and address schedule issues with appropriate Co-Project Managers and / or PDEA Regional Managers and Roadway Assistant Unit Heads.
- Expedite both the schedule change approval process and Basic Schedule update
- Facilitate the yearly TIP scheduling meetings between Co-PMs and others. Also generate Problem Project list and facilitate Problem Project meeting.



"POLICE" USAGE OF THE SYSTEM

 Review schedule status reports and contact appropriate Co-Project Manager and Activity Managers to address deficiencies

 Track and report on usage for each unit; i.e. schedule maintenance, charging time to activity / activity element level, etc.

 Oversee the maintenance of non-schedule related STaRS data – project assignments, number of parcels & relocations, project length, structure types & number, milestone "clean-up", etc.



INVOLVEMENT IN BUSINESS PROCESS CHANGES

Maintain the Project STaRS Standard Network databases.

 Work with Units on their business procedures and process changes to efficiently integrate into the Standard Networks and, if necessary, existing operative projects.

 Hold quarterly meetings with key Executives to address issues or changes involving Project STaRS.



PROVIDE SUPPORT AND TECHNICAL ASSISTANCE

- When needed, make changes to operative projects to allow more consistency with the standard networks.
- Answer questions and troubleshoot issues for PDEA & Roadway Co-PMs and Activity Managers
- Facilitate Main Project STaRS User Group Meetings request agenda items, prepare agenda, create demos, and develop & post minutes.
- Participate in the unit-level user group meetings as needed.
- Prepare and facilitate a yearly ½ day to one-day training workshop for Co-Project Managers and Activity Managers to review and discuss Project STaRS issues.
- Work with Units that have their own internal schedule-related databases to incorporate them into the Project STaRS system (SAP R/3).
- Coordinate with IT to address enhancements, upgrades, fixes, etc. related to SAP R/3.



POLICY & PROCEDURES

 Develop formal documented policies and procedures on how the Project STaRS system should be used.

• Establish a procedure that quickly and concisely distributes changes and updates to all users on how to use Project STaRS; i.e. policy changes, tips & tricks, system "bugs", etc. The Business Process Procedures (BPP) that exist on the website are great training materials but most users get lost in the volume of material.



This is <u>not</u> a Project Management office.

The purpose of this office is to provide <u>oversight</u> of the project schedules and provide "<u>ownership</u>" of the Project STaRS system. This office would be a resource for the future Project Executives of the Program / Project Delivery office, the Co-Project Managers (or future Tri-managers), Activity Managers, and Program Development.

• KNOWLEDGE OF SAP R/3 ALONE WOULD NOT BE SUFFICIENT TO HANDLE THE DUTIES OF THIS OFFICE!!

The staff working in this office needs to have (1) a sound understanding of SAP R/3 as related to Project STaRS and (2) a good understanding of the project development process.



BENEFITS OF A PSO

- It will help promote consistent, across-the-board usage of Project STaRS thus increasing reliability, validity, and accountability in STIP scheduling
- A successful and diligent PSO will make sure that the Preconstruction Dashboard reports an accurate project status that has not been "made to show green".
- Accurate and reliable schedules will eventually allow the Department to use the Project STaRS tool for resource tracking and planning.
- Reliability in Project STaRS will allow the TIP Development Unit to generate STIP funding dates using the durations from the standard mapped business process networks. We need to avoid setting initial schedules that are doomed from the beginning.
- Effective and efficient project schedule tracking will increase project delivery performance.
- Co-Project Managers can spend more time managing their projects and not feeling overwhelmed with Project STaRS management.



"I've jus been program'n and reprogram'n ...schedul'n and reschedul'n ...it's about to drive me plum crazy!"



A Typical Co-Project Manager



RECOMMENDATION

Create a "Project STaRS" Office

Findings

Currently there is a perception amongst the Project STaRS users that there is no one true "owner" of the system. Even though Project STaRS allows numerous activity owners to feed it data and it utilizes a Co-Project manager approach to take ownership of the schedule, there is inconsistent across-the-Department usage, no accountability for lack of usage, uncertainty as to the validity of the schedules, and no formal policies and procedures.

Recommendations

Create a full-time "Project STaRS" Office (PSO) staffed with individuals dedicated to sustain our multi-million dollar SAP scheduling product. These individuals must have both a good understanding of DOT's current project development process and sound SAP R/3 knowledge.

Implementation Strategy

Upon approval by the Leadership Team,

- (1) Create job posting for PSO Unit Head & post by February 29, 2008
- (2) Upon filling of Unit Head position, begin drafting transition plan
- (3) Post 3 manager positions by April 15, 2008 (est.)
- (4) Implement transition plan by July 1, 2008 (est.)



Timeline for Implementation of Project STaRS Recommendations

							2008						
RECOMMENDATION	OWNER	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Communicate new scheduling policy													
Evaluate Dashboard criteria													
Schedule Change History database													
Workshops			Late	Mid									
STIP Development													
Create "Project STaRS" Office													



"VICIOUS CYCLE"





QUESTIONS?



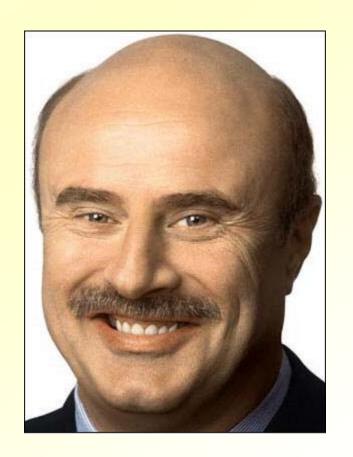


Ehren Meister

George Michaels







Joey Hopkins

Dr. Phil







David Wasserman

Pete - "The Sonic Guy"







Roberto Canales

Jimmy Smits



PROJECT STaRS Executive Workshop

May 14, 2008



AGENDA

- Why are we here today?
 Ron
- Preconstruction Scheduling Metrics Debbie
- Project STaRS Issues Jimmy

Time Charges

Activity Manager's Roles

Unconstrained Forecast Schedules

Project Scheduling

Barchart Program

Resource Planning

Reporting

Deliverable Tracking

- Summary of Recommendations Ron
- Q&A



Why are we here today?

Consistent, Across-the-Department Usage

Preconstruction Dashboard validation

Executive Dashboard integration

Performance Metrics



WHAT ARE THE USAGE ISSUES?

- ☐ Estimated proper usage 35%
- Activity Managers may not fully understand their role in Project STaRS.

Activity Completion confirmations / forecast finish dates / durations

- Constraint scheduling BASIC (approved) vs. FORECAST (status)
- Improper time charges
 - (1) Impacts how the system interprets information when the project is rescheduled
 - (2) Affects ability to track resources
- Some users feel that because the system does not accommodate all their needs and are using other tools for scheduling and work planning in lieu of Project STaRS.
- Many managers are not holding their staff accountable due to their own lack of understanding of how to track and report usage.

RESULTS OF INCONSISTENT & IMPROPER USAGE

 Co-Project Managers have become more like Project STaRS managers instead of project managers.

 Constraining forecast schedules may artificially allow the dashboard status to display "green".

 Initial Project STaRS schedules may be "doomed" from the beginning because the STIP was not generated from the project timeline established in the standard networks. (Backward scheduling)

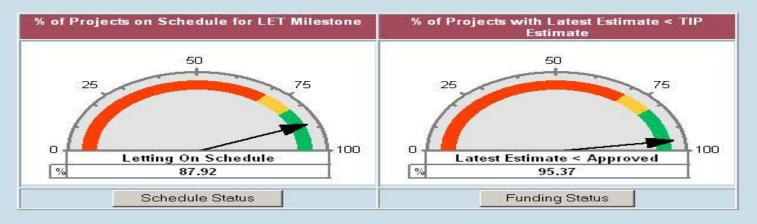
Poor schedule data impacts resource planning

NCDOT ORGANIZATIONAL PERFORMANCE DASHBOARD

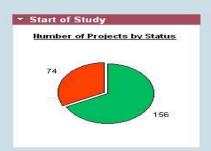


Preconstruction Dashboard

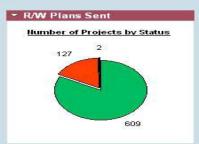
Pre-Construction Project Status Dashboard

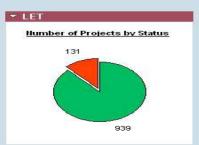


Pre-Construction Project Schedule Status









PDEA CoPM	(All)	Design CoPM	(All)
Type of Project	(All)	TIP Let Fiscal Year	(All) Range
Division	(All) 🔻	Funding Source	(All) 🕶
County	(All)	Status	(All) Submit

Home Funding Status Individual Project

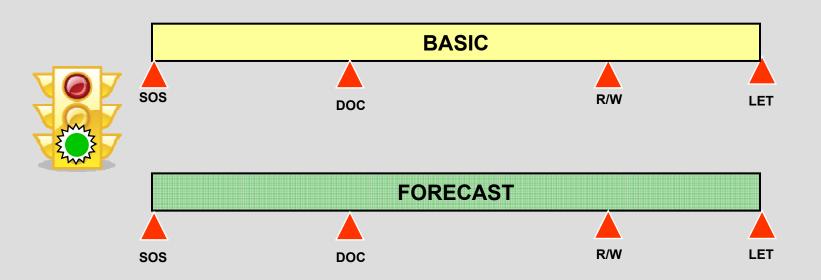
Preconstruction Dashboard

Evaluates "drift" between the Basic & Forecast

- Start of Study
- Environmental Document
- R/W Plans Sent
- Let



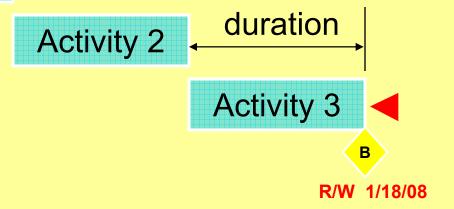
The Dashboard is currently configured to compare milestones in the Basic (the latest approved schedule) vs. the Forecast (current status) to determine the red, yellow, & green status.





"Must Finish On" Constraint

Activity 1



FORECAST (Status)

Activity 1

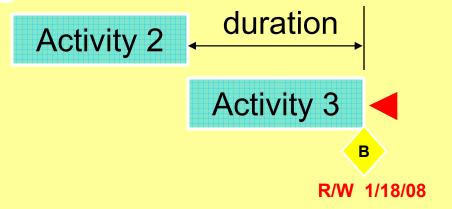
Activity 2



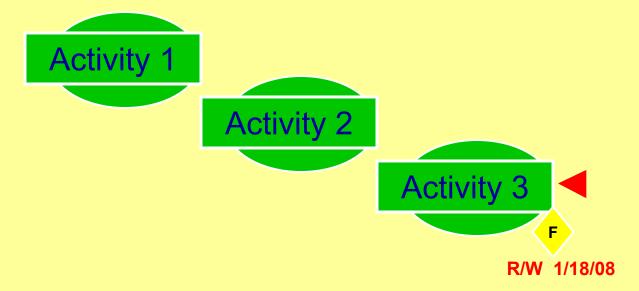


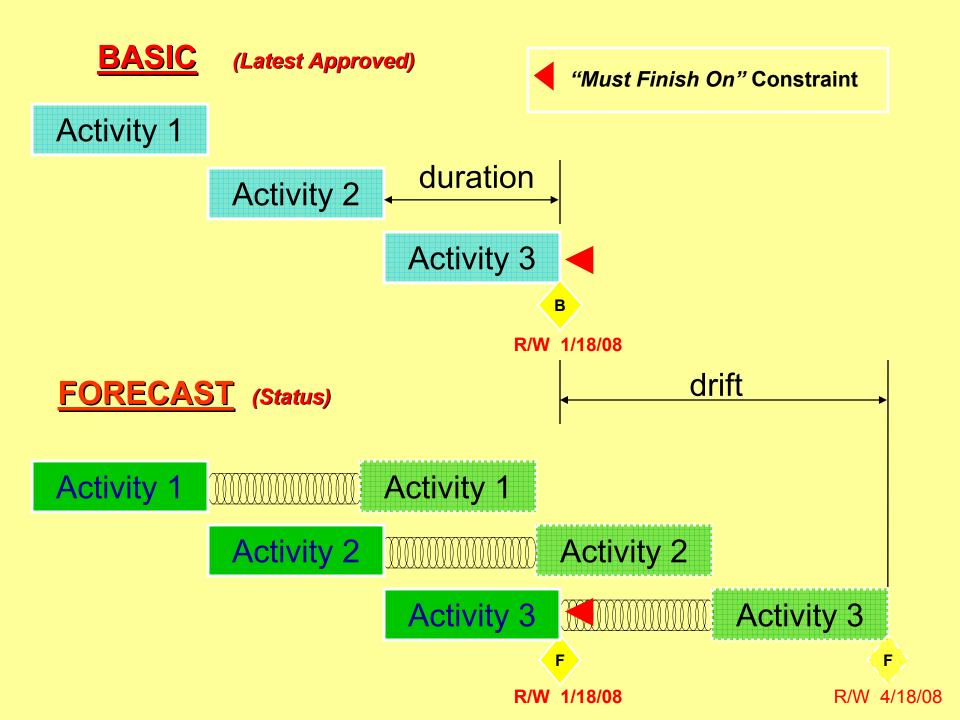
"Must Finish On" Constraint

Activity 1



FORECAST (Status)





There are only two reasons that the Basic and Forecast Schedules should drift apart ...

- (1) The project is truly behind schedule due to heavy workload, resource issues, poor project management, etc.
- (2) Poor schedule upkeep & data maintenance in Project STaRS.



WE NEED TO CORRECT ITEM 2 BEFORE WE CAN MANAGE ITEM 1

Debbie Barbour

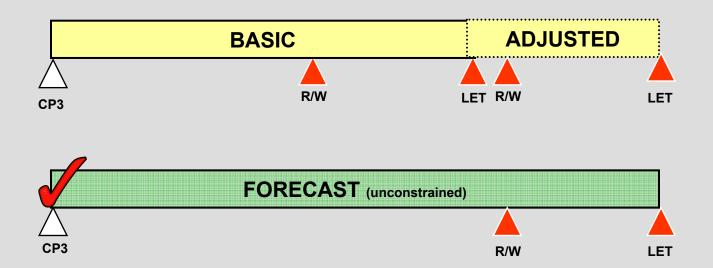


Milestone "Trigger" Points

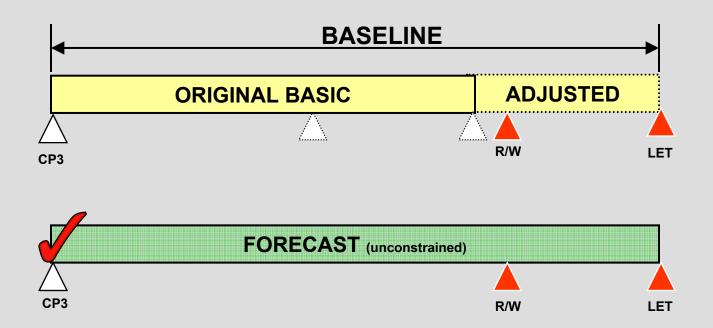
PROJECT TYPE	MILESTONE
Bridge Replacement Projects	Field Scoping Meeting (FSM) or Concurrence Point 3
Minor Improvement & Other Projects	Funding Approved
Major Widening Projects	EA Approved or
	Concurrence Point 3
New Location Projects	Concurrence Point 3

Example

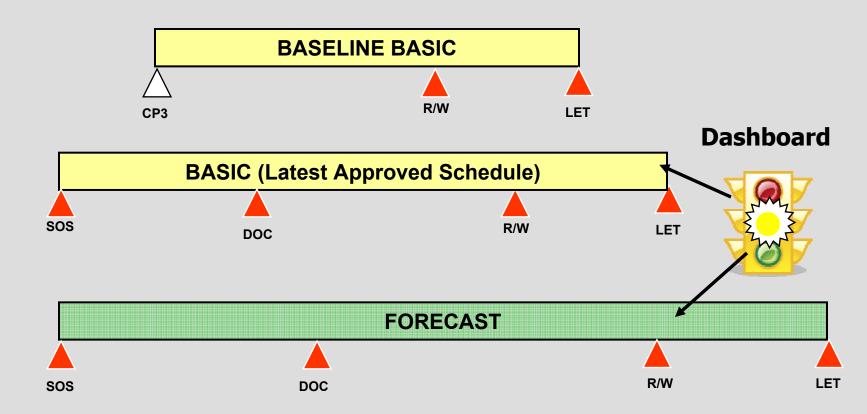
Upon achieving Concurrence Point 3 for New Location Projects, the Forecast schedule should be rescheduled to create a new Basic schedule.



The Basic schedule at this point in the project would become the baseline for future performance audit reporting.

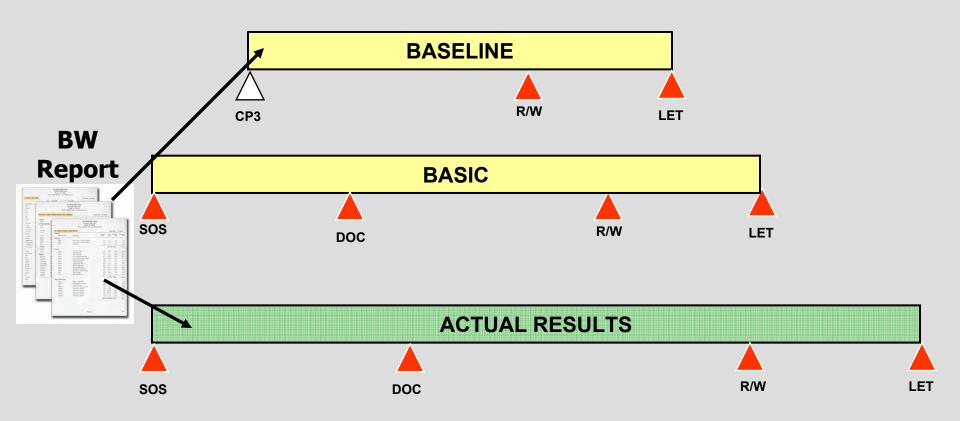


The Dashboard RYG status will be generated by the Forecast being compared against the <u>latest approved schedule</u>.



However...

The Baseline schedule will be recorded for future performance audit reporting to compare it against actual results.



Name: Debbie Barbour

Position/Title: Director of Preconstruction

NCDOT Goals:

(1) Make our transportation network safer.

(2) Make our transportation network move people and goods more efficiently.

(3) Make our infrastructure last longer.

(4) Make our organization a place that works well.

(5) Make our organization a great place to work.

PERFORMANCE DASHBOARD AND APPRAISAL WORKSHEET

Goal	Metric	Metric Definition	Target	Data Source	Wt (%)
1	Crash Rate	Reduce 5 Year Statewide Average (Crash Rate per 100 Million Vehicle Miles Traveled)	233.03- 263.46	Traffic Engineering	5%
		<u> </u>	<u> </u>	<u> </u>	
3	Infrastructure Health & Performance	Improve Index Score (3 Year avg.) toward goal	68-72	Asset Management	2.5%
2,3&	Projects/Programs/	-			-
4	Services on Schedule, Budget and Scope	i 	Composite		87.5%
	A. Projects/Programs on Schedule	<u> </u>			
		NEPA Documents completed within rating period versus those planned	70-85%	<mark>STaRS</mark> & PDEA	20%
		Projects sent for Right of Way Acquisition within rating period versus those planned	70-85%	STaRS & Program Development Branch	20%
		3.% Projects let to contract within rating period versus those planned	70-85%	STaRS & Program Development Branch	20%
		4.% Projects construction completed on time	70-85%	HiCams & <mark>SAP</mark>	2.5%
	B. Projects on Budget	- 	Composite	 	10%

Project STars' Issues

Hi! It's me again!

I've been scheduling so much my teeth fell out!



TIME CHARGES

How improper time charging affects project schedules

Time Charges

- Should be used by all users that provide input into project deliverables.
- Users should charge only to the activities and elements that are currently being worked on.
- Do not charge just to charge.
- By entering your work center number and applicable TIP's the **Time Sheet Assistant** will display all applicable objects that you can charge to.

Time Charges

Co-Project Managers and Activity
 Managers should always <u>charge to the lowest level possible</u>.

Once charges are applied to an element or activity the system will begin to adjust durations based on this start date.

Lack of Project STaRS data maintenance effects...



TIME CHARGES/ MAINTENANCE

Activity

Activity A

Activity B

Activity D

Activity E

Activity C

TIME CHARGES/ MAINTENANCE

Activity

Activity A

Activity B

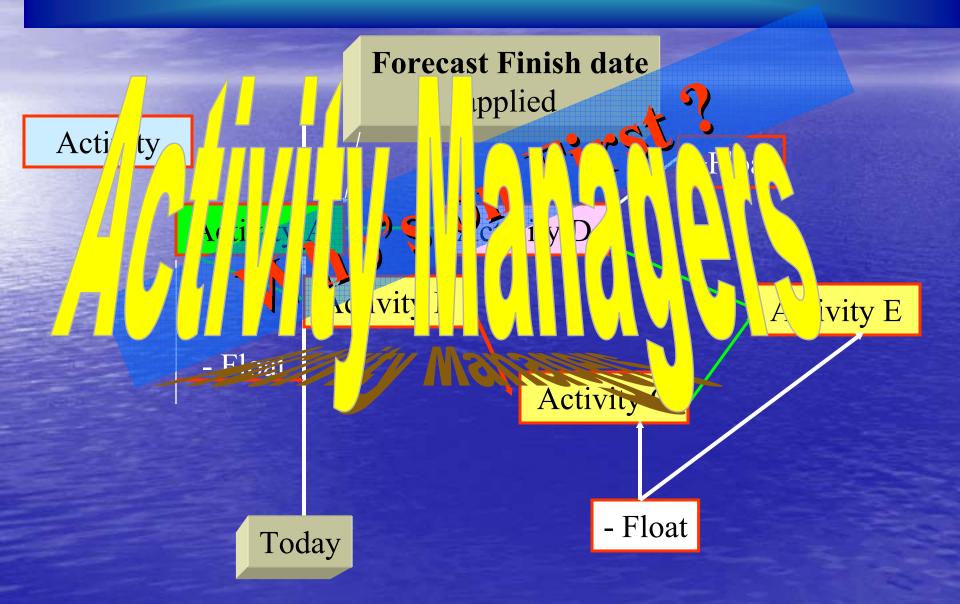
Not started or Not Maintained Forecast Finish date applied.

Activity D

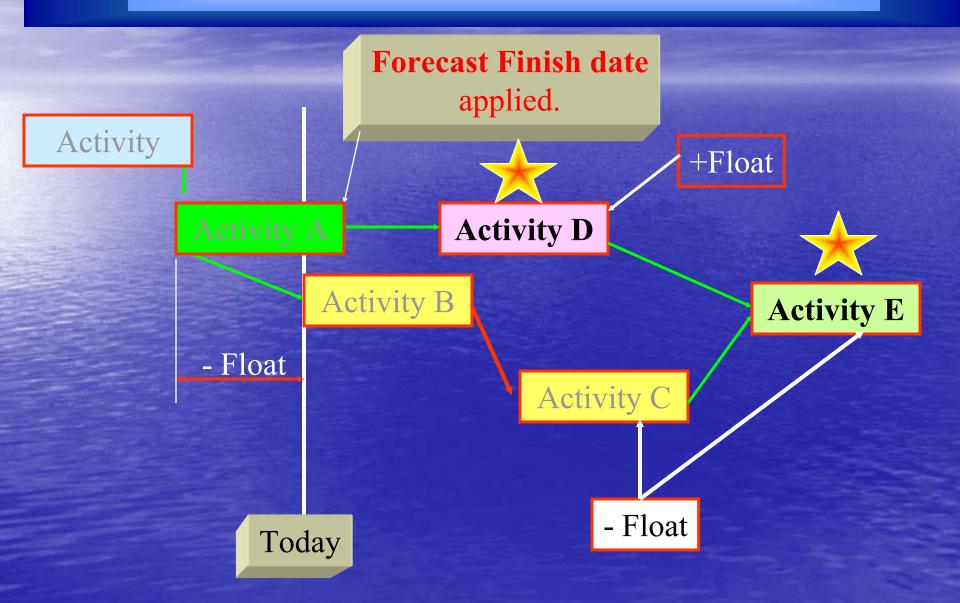
Activity E

Activity C

TIME CHARGES/ MAINTENANCE



Dashboard



TIME CHARGES In Summation

- User SHOULD place a Forecast Finish date on an activity ONCE IT HAS STARTED.
- Use the Time Sheet Assistant !!!!
- CHARGE TO THE APPROPRIATE ACTIVITY or ACTIVITY ELEMENT.
- Don't charge just to charge!!!!

Time Sheet Assistant

imesheet Assistant - Step 1 o	of 2		×
Search Criteria Use the fields below to limit the	number of activities (activity e	elements) that can appear on the time sheet.	
	4		
Where to charge time?	Only Activity Elements		
	C Only Activities		
Key Date	05/05/2008	(mm/dd/yyyy)	
Project Definition			
TIP Number(s)			
Work Center(s)			
How far out do you want to search?	08/03/2008	(mm/dd/yyyy)	
Help Cancel	<< Back Next >>	Einish	

ACTIVITY MANAGER'S ROLES

Data Entry – activity completion confirmations, proper use of forecast finish dates, and duration adjustments

Managers & their Roles

Activity Managers

Co-Project Managers

Responsible for maintaining activities &

Responsible for maintaining project schedules &

updating activities.

Monitoring activity status.

Poor input or lack of input can have

Reschedule forecast schedules to update status of project &

detrimental impacts on project schedules.

Document Schedule changes.

Maintaining Activities

- Activities should be maintained using ZCNS47 variant on single or multiple projects.
- ZCNS47 allows users to change their activity durations, add their activity Forecast Finish dates, modify their control keys and confirm their activity completion dates without having to search through activities and elements owned by others.

DEMO OF ZCNS47

5 minute break?

UNCONSTRAINED FORECAST SCHEDULES

Basic vs. Forecast - Preconstruction Dashboard -Current Project Status

A NEW SCHEDULING PHILOSOPHY

NO CONSTRAINTS WILL BE USED IN THE FORECAST SCHEDULE

The intent of this is to allow the system to truly reflect the current project status in reporting and on the Dashboard.



This change in philosophy could also help to identify possible flaws in our business processes.

There are always exceptions :

- 1- When an activity needs to be controlled by the calendar such as the flying season or T&E studies, a CANNOT START BEFORE constraint is allowed.
- 2- If a part of the project needs to be delayed a CANNOT START BEFORE constraint is allowed; i.e. R/W for Part A is FY 09 & Part B is FY 10

3- During schedule changes or development of a new TIP project, R/W & Let date constraints are temporarily required in the forecast because these milestones occur on specific days of the month. Once completed, these constraints should be removed from the forecast schedule.

PROJECT SCHEDULING

How to begin, establish, and maintain a project schedule

Quick Overview of Scheduling Types

Backwards

Used to determine when you would need to start a project based on a proposed Let date.

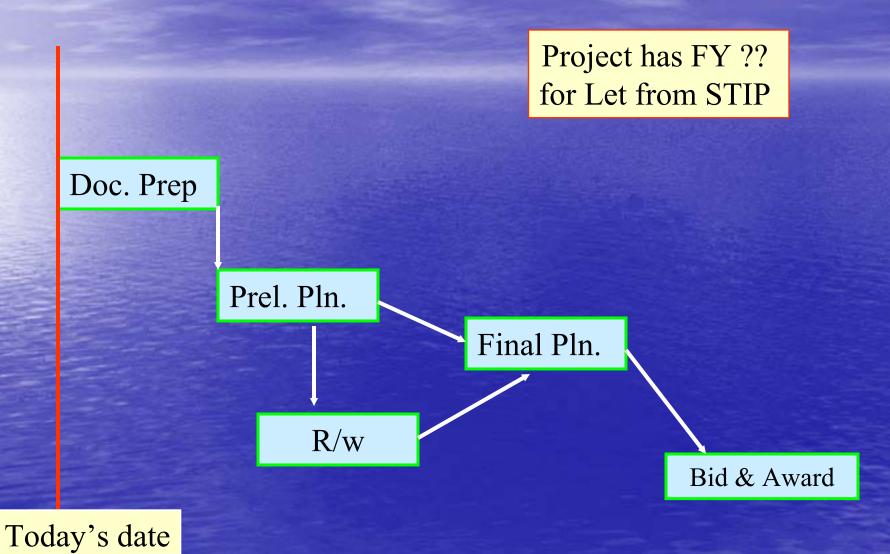
Current date

This is used once you have started a project and need to update the schedule and activities.

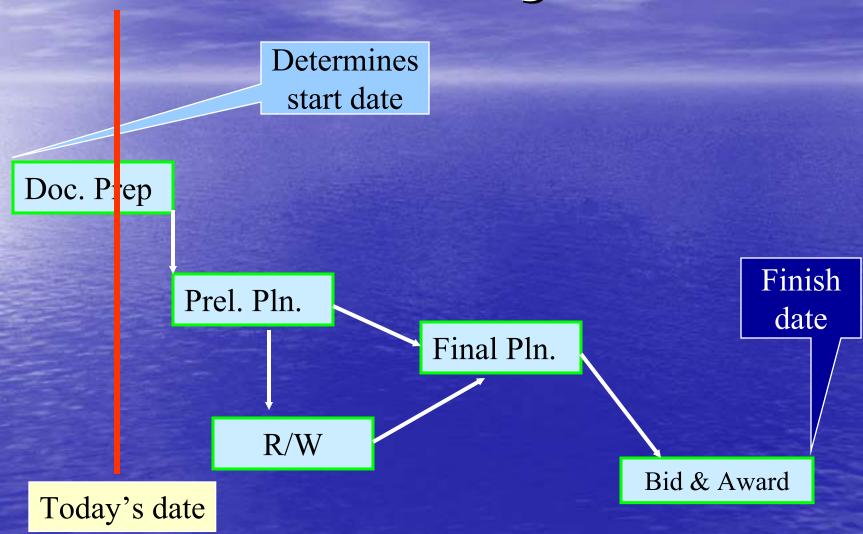
Forward

Used to push a project in the future based on set start date. Ex: would be that part "C" will need to begin in October of 2012.

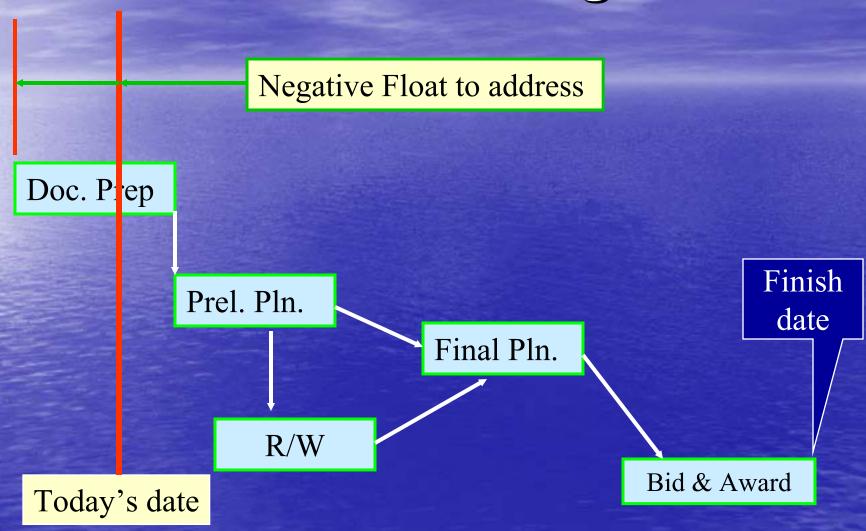
Backward scheduling



Backward scheduling



Backward scheduling



Scheduling Guidelines

Schedule *entire* Project

Shift or not to shift (Schedule Change)

Adjust durations

Coordination a must!



BARCHART PROGRAM

How to manage multiple activities on multiple projects

Excel Barchart Program

- Reports on Milestones only
- Provides a quick scheduling overview of multiple project schedules
- Uses standard SAP R/3 transaction for creating input data
- Allows users to customize to their specific needs
- This program could have future applications; i.e. construction schedule tracking, etc.

Excel Barchart Program

	TIP subno.	Desc.	Activity	ActIDate	SchdDate-F	Res Person	Usage
	A-0009	Concurrence Point 1	0100		04/08/2008	Joseph Miller	M0060
A	A-0009	Receive Prel. Mapping (FTOP)	0230		11/07/2008	John Lansford	M0095
	A-0009BB	Hydro Recommendations (FHYD)	0810		12/20/2010	John Lansford	M0280
3	A-0009BB	R/W Authorization	0830		01/20/2012	Majed Al-Ghandour	M0290
	A-0009BB	Pre-Let Field Inspection (PLFI)	1370		09/14/2012	John Lansford	M0400
	A-0009BB	Roadway Plans to Cont & Prop	1390		10/15/2012	John Lansford	M0420
	A-0009BB	Letting	1570		01/21/2014	RGARRIS	M0435
	A-0009C	Survey Request to Location (TLOC)	0610		11/21/2008	DHENSON	M0215
	A-0009C	Plan sheets from Location (FLOC)	0610		11/20/2009	DHENSON	M0220
Ē	A-0009C	Distribute plans	0620		07/20/2010	John Lansford	M0240
Ē	A-0009C	Final Design Field Inspection (FDFI)	0810		02/22/2012	John Lansford	M0260
8	A-0009C	Hydro Recommendations (FHYD)	0810		06/23/2011	John Lansford	M0280
	A-0009C	R/W Authorization	0830		05/18/2012	Majed Al-Ghandour	M0290
	A-0009CA	Pre-Let Field Inspection (PLFI)	1370		02/19/2013	John Lansford	M0400
	A-0009CA	Roadway Plans to Cont & Prop	1390		03/20/2013	John Lansford	M0420
=	A-0009CC	Hydro Recommendations	1600		10/03/2012	Andrew T. Nottingham	M0280
	A-0009CC	Distribute plans	1650		04/29/2013	John Lansford	M0240
=	A-0009CC	Final Field Inspection	1650		09/27/2013	John Lansford	M0400
9	A-0009CC	Roadway Plans to Cont & Prop	1670		10/28/2013	John Lansford	M0420
	B-3019	Hydro Recommendations (FHYD)	0620	10/31/2006	10/20/2006	W. G. Cail	M0280
٦	B-3019	Combined Field Inspection (CFI)	0740	02/09/2007	02/09/2007	Allison K. White	M0270
	B-3019	R/W Authorization	0830	02/01/2007	03/16/2007	Majed Al-Ghandour	M0290
-	B-3019	Roadway Plans to Cont & Prop	1085		12/12/2007	RGARRIS	M0420
	B-3019	Letting	1570	03/18/2008	03/18/2008	RGARRIS	M0435
	B-3169	R/W Authorization	0830	08/18/2006		Majed Al-Ghandour	M0290
	B-3169	Roadway Plans to Cont & Prop	1050		10/23/2007		M0420
	B-3169	Letting	1570	01/15/2008	01/15/2008	RGARRIS	M0435

Excel Barchart Program

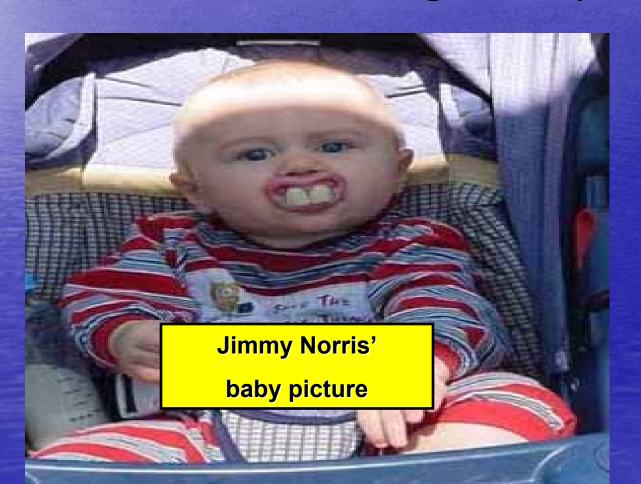
PE.	Chang								PE:	Chang
SQUAD:	onung								SQUAD:	Onung
TIP		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
A-0009					CP1	_		DSUPDOC		
B-3019				LET						
B-3169		LET								
B-3234		THYD			FHYD		CFI	RW		
R-2233B					SDEIA		DPH			
R-3825A			FHYD				FDFI		RW	
		i ! !								
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
						•		'		

RESOURCE PLANNING

Accurate schedule data provides for better resource planning

RESOURCE ADJUSTMENTS

Another New Scheduling Concept



How can we address resources in Project STaRS today?

- Standard Network durations assume this **IS* your only project and **NO* resource capacity is addressed.
- The Standard Network durations, for any given business process, were developed to be used only as a GUIDELINE for developing a baseline.
- Managers need to adjust their durations on projects based on project specifics and resource availability.
- Actual durations come from charging properly to the current activity/elements using Time Sheet Assistant.
- HOW ??

Resource adjustments

Predecessor has a
Cannot Start Before constraint
due to
calendar restrictions.

July

Schedule indicates Document pleted in July.

Predecesso

What should you do with lack of Resources ??

FS

Prepare Doc

6 Mon.

However your Resources indicate it will be Sept.

Common Practice

Controlled by up stream activities

Predecessor

2 mon.

+Float

FS

Must Finish On September

Prepare Doc.

6 mon

Adjustments

Add 2 mon. to the duration to push date.

New date becomes September

Predecessor

FS

Due July

Prepare Doc.

6 Mon.

2 Mon

This maintains critical path and eliminates confusion.

New date based on demand

Results

Calendar Constraint upstream activities

Predec

1100 100c

n predecessor straint being to control activity

FS

Prepare Doc.

8 mon

Results

8 Months

Planned duration based on resources

Elements required to complete.

Element 1

Element 2

Actual duration based on Activity TECO'D

Actual Time Charges

= Actual Duration

Resource Planning

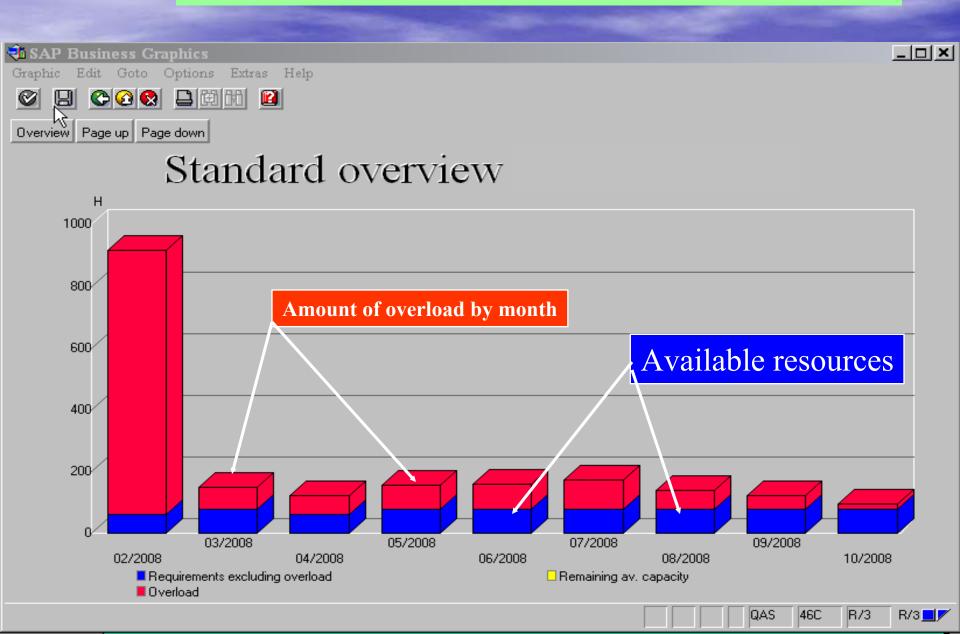
- Business Units have expressed need to address manpower in Project STaRS
- This will require more investigation and standardization within Project STaRS
- It will also require accurate work efforts and durations in Project STaRS

Resource Planning

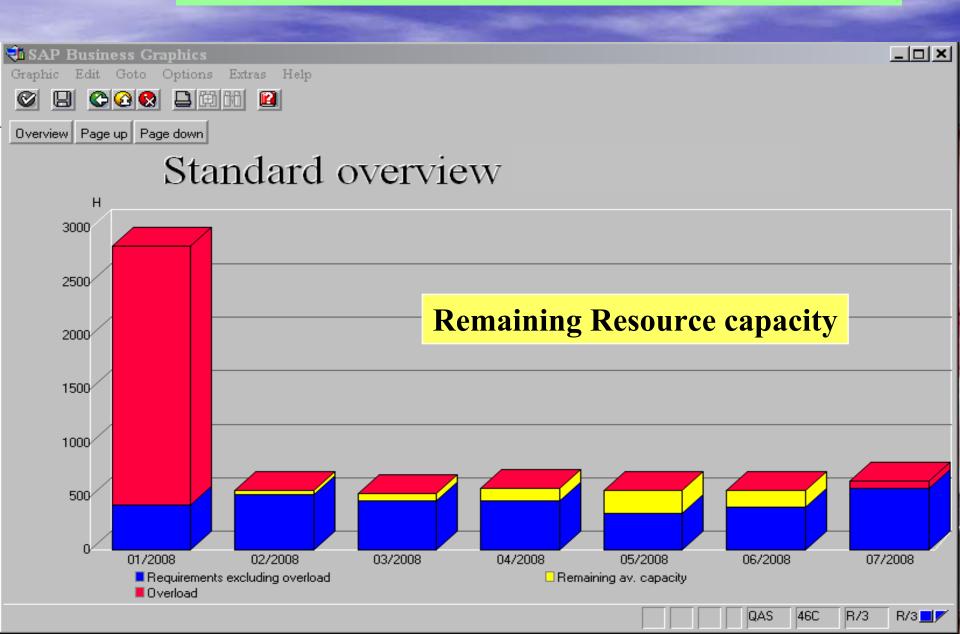
SAP R/3 can determine work center overloads based on available resources; however, it uses the work efforts assigned to the task.

We must ask ourselves...Is this the direction we need to head?

The Future of Resource Planning?

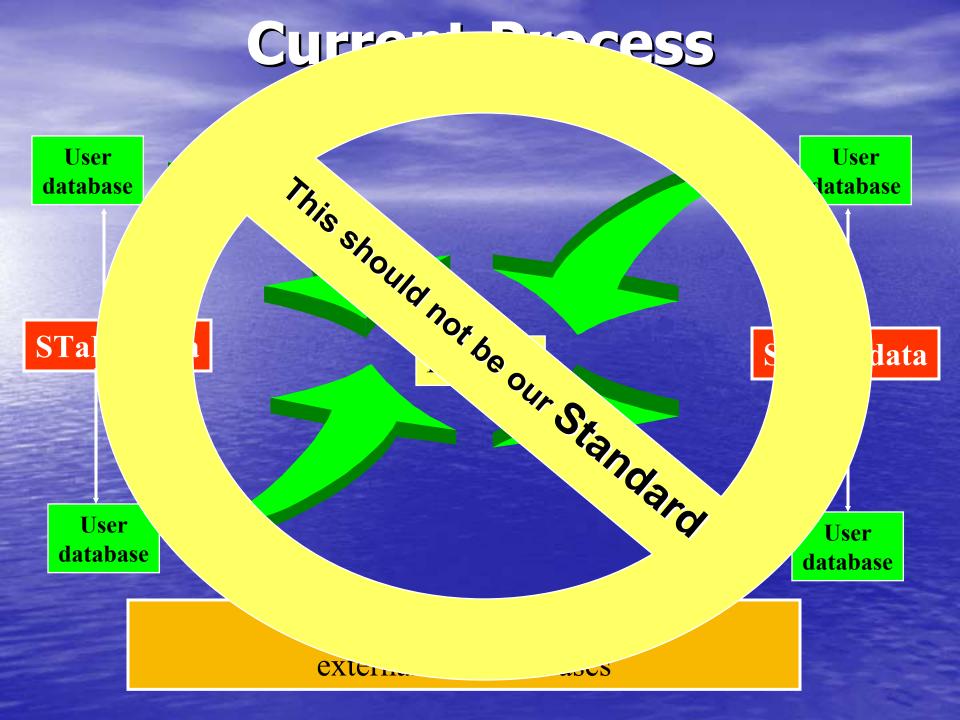


The Future of Resource Planning?

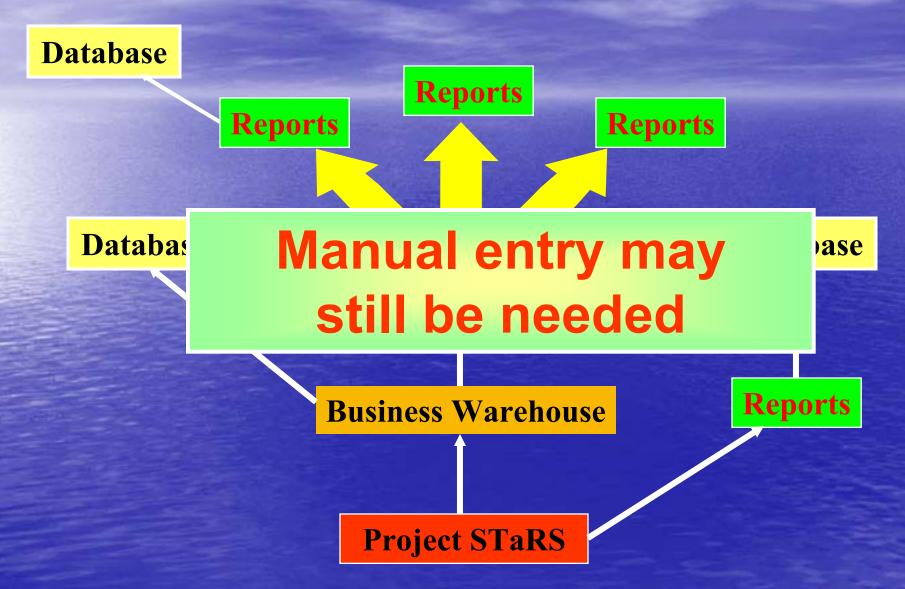


REPORTING

How do we know the data in Project STaRS is accurate and how do we hold users accountable?



Future Reporting



DELIVERABLE TRACKING

A NEW CONCEPT

Tracking Deliverables Vs. Tasks

How do we go from a Task Tracking system to a Deliverable Tracking system?

Deliverable Tracking

Prepare & Approve Environmental Document	PDEA Project Development
	PDEA Project Development
Write draft 4(f) statement	PDEA Project Development
Review draft document and revise	GEO GeoEnvironmental
Review draft document and revise	GEO Regional Offices
Review draft document and revise	Readway Design
Any unit not having a specific ele	ment that will review ning
document would charge t	dinogr
document would charge t	the Activity.
Review draft document and revise	Division Resident Engineer
Review draft document and revise	TEB CM-Central Region
Review draft document and revise	PUEA HEU Archaeology Group
Review draft document and revise	R/VV Central Office
Review draft document and revise	SD Design 1
Review draft document and revise	PDEA HEU Hist Architecture Group
Review draft document and revise	Hydraulics Project Design
Review draft document and revise	PDEA Project Development
Review draft document and revise	PDEA HEU Community Studies
Review draft document and revise	PDEA HEU Noise/Air Quality Group
Review draft document and revise	PS Utilities Section
Review draft document and revise	PDEA NEU Project Management
Submit document to FHWA	PDEA Project Development
Revise draft document with FHWA comments	PDEA Project Development
Document approval	PDEA Project Development

Deliverable Tracking

Pre-Let Field Inspection (PLFI)



Review pavement derign
Prepare for field inspection (PLFI)
Prepare for field inspection (PLFI)
Review plans for constructability

Review plans for constructability

Conduct field inspection meeting

Review plans for constructability
Review plans for constructa
Review plans for constructa
Review plans for constructa
Review plans for constructa
Conduct field inspection me
Conduct field inspection me
Conduct field inspection me
Conduct field inspection me

Contains 60 Objects

Conduct field inspection meeting Conduct field inspection meeting. Conduct field importion meeting Conduct field inspection meeting Conduct field inspection meeting. Conduct field inspection meeting Conduct field inspection meeting Conduct field inspection meeting Conduct field importion meeting Conduct field inspection meeting: Conduct field inspection meeting Conduct field inspection meeting. Conduct field inspection meeting Roviou onvironmental Green Sheets Review environmental Green Sheets Review environmental Green Sheets Roviou onvironmental Green Sheets Reviewenvironmental Green Sheetr Review environmental Green Sheets Roviou onvironmental Green Sheets Review environmental Green Sheetr

Coordinate barrier control
Review Traffic Control plans
Review Traffic Control plans
Review Traffic Control plans
Derign erarion control plans
Erarion control plans
Erarion control plans
Revire landreaping/rite plans
Verification of R/W

Coordinate barrier control

Prepare PLFI response
Incorporate revisions from Division
Update CIA

Roadway Design

PMU Darign Division Construction Engineer Roadway Derian GEO GeoEnvironmental Hydraulier Project Decian Construction Unit GEO Regional Officer REU Spil & Water Engineering REU Field Operations R/W Balacation PS Utilities Section Division Construction Engineer Divirion Regident Engineer Work Zone Traffic Control Unit Utilitias Coordination Unit TEB Signing SD Decision 1 R/W Negotistions

SD Derign 1
TEB Signalr & Geometrics
Readway Derign
PS Utilities Section
Division Resident Engineer
Utilities Coordination Unit
TEB Signing
Work Zone Traffic Control Unit
RAW Negotiations
REU Soil & Water Engineering

REU Field Operations

Hydraulier Project Design

Construction Unit

R/W Relocation

GEO Regional Officer

PDEA NEU ICI/On-Site Mitigation

Division Construction Engineer

PDEA NEU Engineering

Hydraulier Project Design

Division Construction Engineer

REU Soil & Water Engineering

REU Field Operations

Construction Unit

PDEA NEU ICI/On-Site Mitigation

DEA NEU ICHOn-Site Mitigation
Divirion Rezident Engineer
PDEA NEU Engineering
TEB Signing
Roadway Dezign
Construction Unit
SD Dezign 1
Roadway Dezign
REU Soil & Water Engineering
REU Soil & Water Engineering

REU Derign

REU Derign

L®S Area Engineers

Divirion Construction Engineer

Roadride Environment Unit

Roadride Service Mitigation

GEO Regional Officer

PDEA HEU Community Studier

Pre-Let Field Inspection (PLFI)	Roadway Design
Beuleis passement design	PMII Design
Prepare for field inspection (PLFI)	Division Construction Engineer
Prepare for field inspection (PLFI)	Roadway Design
Heusew plans for constructability	GEU Geok nurronmental
Review plans for constructability	Hudradius Project Besign
Review plans for constructability	Construction Unit
Review plans for constructability	GEO Regional Offices
Review plans for constructability	REU Soli & Water Engineering
Heview plans for constructability	HEU Field Uperations
Review plans for constructability	PIW Pelocation
Review plans for constitucianillii	HS UNITIES Section
Review plans for constructability	Division Construction Engineer
Review plans for constructability	Division Resident Engineer
Review plans for constructability	Mork Zone Trakke L'ontrol Unit
Review plans for constructability	Utilities Coordination Unit
Beview plans for constructability	TFB Signing
Review plans for constructability	SD Design 1
Review plans for constructability	Arw Negotiations
Conduct held inspection meeting	Hydraulics Project Design
Conduct field inspection meeting	SB Besign 1
Conduct řielá inspection meeting	TER Signals in Renmerries
Conduct field inspection meeting	Roadway Design
Conduct field inspection meeting	PS Utilities Section
Conduct field inspection meeting	Division Resident Engineer
Conduct field inspection meeting	Utilities Coordination Unit
Conduct field inspection meeting	TEB Signing
Conduct field inspection meeting	Work Zone Traffic Control Unit
Conduct field inspection meeting	Fil'w Megotiations
Conduct Held Inspection meeting	REU Soil & Water Engineering
Conduct field inspection meeting	DEU Field Operations
Conduct field inspection meeting	Construction Unit
Conduct field inspection meeting	R/W Relocation
Conduct field inspection meeting	GEO Regional Offices
L obditer Held Inspection meeting	PUE II WELLIE IA IN SIRA WIRIASHON
Conduct field inspection meeting	Division Construction Engineer
Conduct field inspection meeting	PDEA NEU Engineering

Pre-Let Field Inspection (PLFI)	Roadway Design			
Review environmental Green Sheets	Hydraulies Project Design			
Heview environmental Green Sheets	Division Construction Engineer			
Review environmental Green Sheets	REU Soil & Water Engineering			
Review environmental Green Sheets	REU Field Operations			
Review environmental Green Sheets	Construction Unit			
Fieview environmental Green Sheets	PDEA NEU ICI/On-Site Mitigation			
view environmental Green Sheets عربي	Division Resident Engineer			
Review environmental Green Sheets	POEA NEU Engineering			
Coordinate barrier control	TEB Signing			
Coordinate barrier control	Roadway Design			
Review Traffic Control plans	Construction Unit			
Review Traffic Control plans	SD Design 1			
Review Traffic Control plans	Roadway Design			
Design erosion control plans	PIEU Soil & Water Engineering			
Erosion control plans on Microstation	ΠΕU Soil & Water Engineering			
Devise landscaping/site plans	DEU Field Operations			
Devise landscaping/site plans	REU Design			
Verification of Thy	L&C Area Engineers			
Prepare PLFI response	Division Construction Engineer			
Incorporate revisions from Livision	Hoadside Environment Unit			
Incorporate revisions from Division	Roadway Design			
Incorporate revisions from Livision	PUEA NEU ICHUR Site Miligation			
Incorporate revisions from Division	GEO Regional Offices			
incorporate revisions from Livision	PUE O DIEU Engineering			
Update CIA	PDEA HEU Community Studies			

Results of PLFI

Pre-Let Field Inspection (PLFI)			Roadway Design		
Prepare for field inspection (PLFI)	Prepare for field inspection (PLFI)				
Prepare for field inspection (PLFI)			Roadway Design		
Review plans for constructability	Review plans for constructability				
Review plans for constructability	Contains :	1 1	Division Construction Engineer		
Review plans for constructability			Division Resident Engineer		
Conduct field inspection meeting	Objects		Division Resident Engineer		
Conduct field inspection meeting	Conduct field inspection meeting				
Conduct field inspection meeting	Conduct field inspection meeting				
Conduct field inspection meeting	Conduct field inspection meeting				
Prepare PLFI response			Division Construction Engineer		
Incorporate revisions from Division			Roadway Design		
Update CIA			PDEA HEU Community Studies		

Any unit not having a specific element that attends or provides comments will charge to the Activity.

Deliverable Tracking PROs

- Reduce number of objects in system by 50 to 80 percent in some activities
- Improves performance and reporting within SAP R/3
- Less maintenance by users
- Should help with Performance Metrics reporting
- Reduce the overall maintenance of standards and user support requirements
- Could be implemented on existing projects since we would be removing activity elements (if no time charges have occurred).

Deliverable Tracking CONs

If we decide this is the direction we need to head the only con may be time and effort.

- Team effort required to determine appropriate deliverables
- Develop implementation strategy
- Possibly training workshops

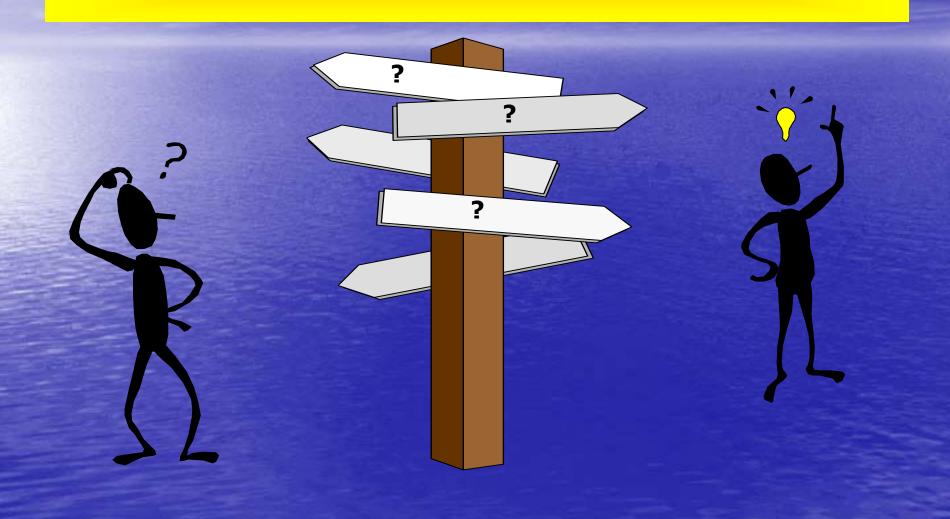
Task Tracking PROs

- Provides detailed information on efforts to complete activities. (Micro-Management)
- Activity managers can assign individuals with detail task assignments by running reports.
- Provides detailed views of project status for anyone to view in system.

Task Tracking CONs

- Time Sheet Assistant generates more data than is necessary
- User spends time determining proper element to charge time to or confirm
- Project structure (GANTT chart) becomes cluttered with lines of data
- Average New Location project with no breakdowns contains approx.
 1000 lines of data
- Maintenance of Standard Networks very time consuming to maintain objects and descriptions

Where do we go from here ?



RECOMMENDATIONS

RECOMMENDATIONS

- Workshops
 - (1) Executive & Manager Level (est. mid- May)



(2) Co- Project Managers and critical Activity Managers (TBD)

We need feedback from you about what you have seen today.

Communicate a new scheduling philosophy

No constraints in forecast schedules How to use duration adjustments on activities to account for resource needs

 Develop schedule change policy that aligns with the Dashboard criteria utilizing unconstrained forecast scheduling

Questions we must ask:

WHY? Is the system up-to-date and has it been rescheduled lately?

WHO? Reports from BI or STaRS could be developed to determine which

activity is behind.

HOW? How can we get the project back on schedule? How long do we allow it

to stay "red"?

Require rescheduling of unconstrained forecast schedules on a routine basis

RECOMMENDATIONS

Require the use of Time Sheet Assistant for all project time charges

Develop Guidelines for Project Time Charges

When you should charge to an Activity or an Activity Element Examples of inappropriate time charges that impact schedule

 Begin efforts to create a Deliverable Tracking System

What kind of scheduling system do we want?

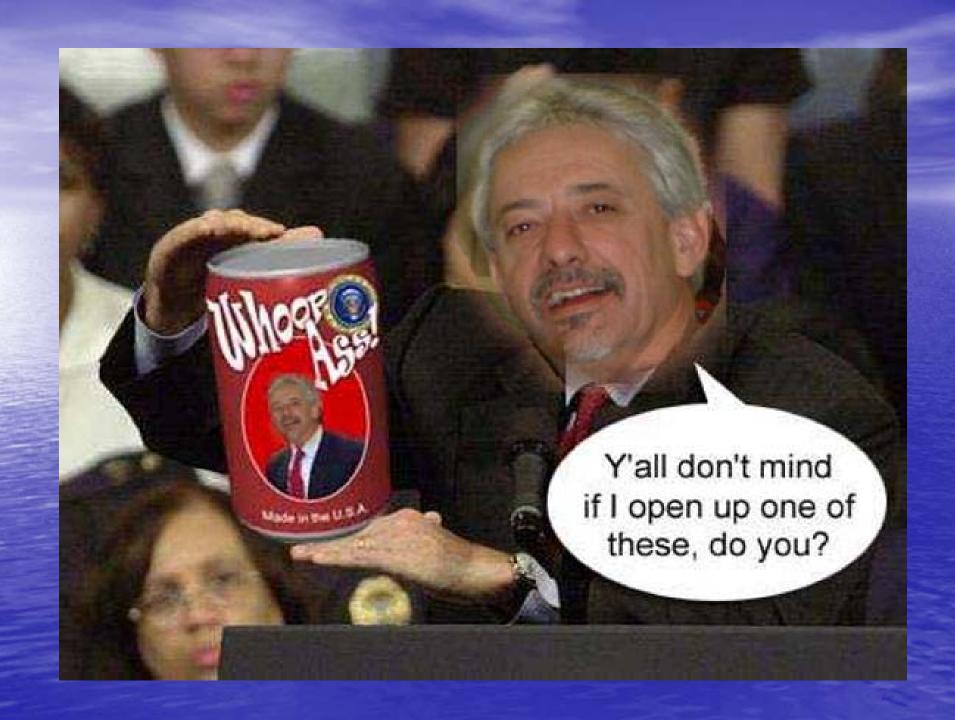
Static?

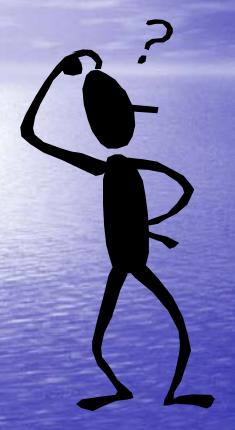
- Show <u>only</u> major milestones and deliverables similar to PMSS
- Use silo approach to scheduling making it very difficult to know the current status of project

Dynamic?



- Enterprise-wide usage allowing input into a single system
- Generate reports of the current project status as needed
- Resource Management





Questions? Comments? Suggestions? or



Just be quiet and go home

OTHER ONGOING INITIATIVES

Completed Improvements

- Streamlining process for New Location, Widening, Bridge Replacement (Process III pending).
- This effort amounted to a reduction of 31% in activities and a 27% reduction of elements that users had to search through.
- Created a NON-Merger process that can be used on multiple types of projects in conjunction with our NON-Standard library of activities and elements.

Completed/On going Improvements

- New improved Timesheet Assistant
- Many new BI reports
- Expanding capabilities of Excel Bar chart program to include more fields
- Addressing comments from survey on user based issues

Proposed Improvements?

- Move to a Deliverable tracking system instead of a Task tracking system.
- Task level tracking should be done outside of R/3.
- This system should not be used to Micromanage.
- Advantages ?

NORTH CAROLINA DEPARTMENT OF TRANSPORATION



PROPOSAL: PROJECT STARS UNIT

February 22, 2008

EXECUTIVE SUMMARY

The NCDOT is in the process of transforming itself into a performance-based organization. Our leaders have embarked on this comprehensive transformation effort with a vision of a new DOT that would be more strategic, accountable, efficient, and effective in its use of resources focused on outcomes-based performance metrics. NCDOT is also beginning to track individual and business unit metrics, translate that information into top-level metrics for the organization, and make that performance data visible to the public in the form of a Department-wide Performance Dashboard, including project schedule data.

In the past, the Department used the Legacy system, known as PMSS, to convey schedule data. The Department's initiative that began in May 2001 was to develop a centralized, integrated schedule management tool that creates, develops, maintains, and communicates project schedules. This tool, Project STaRS (formerly known as PMii), is much different than the system of old. PMSS was a static system that required only the managing of milestone dates and was not a scheduling tool. Project STaRS is intended to be a dynamic system that reflects the true status of a project schedule at any time.

Project STaRS will be instrumental for "feeding" data to the dashboard. This SAP scheduling tool requires business units that own activities in the project development process to input data related to their schedule status. If used efficiently and accurately, the Department should be able to:

- Report the status of projects in real-time (Dashboard)
- Pinpoint scheduling problems.
- Supply data needed for project delivery performance metrics,
- Coupled with accurate time charges, provide accurate resource planning, and
- Increase project delivery due to better management & tracking.

However, since the Project STaRS "Go Live" in May 2004, there is no one true "owner" of the system and there is inconsistent across-the-Department usage, no accountability for lack of usage, uncertainty as to the validity of the schedules, and no formal policies and procedures. An unofficial estimate places current overall usage at approximately 35%.

This lack of usage raises concerns about the reliability of the project schedules and creates additional burden for the Co-Project Managers who are ultimately responsible for the schedules. Some of the effects of poor usage of Project STaRS include:

- Artificially "green" status on the dashboard
- Ineffective STIP development
- Inconsistent & incorrect time charges
- Inability to use the system for resource planning
- Detriment to effective project management
- Some units or groups are using other tools in lieu of "Project STaRS"
- Ineffective reporting and tracking

As with other enterprise IT and computer software related projects; i.e. MicroStation and GeoPak, etc., a centralized core group needs to be established to take ownership of the system, direct and implement guidance for its use, and determine its future direction. To this end, the Transformation Management Team (TMT) proposes that the Department of Transportation create a full-time Project STaRS Unit to sustain our multi-million dollar SAP scheduling investment. Approximately \$14 million has been spent on this system since May 2001 not including the costs of DOT staff members not on the PMii team that were...and still are... involved in the development, testing, change requests, enhancements, user group meetings, and training. This figure could easily be several more millions of dollars and continues to rise.

The recommended duties and benefits of a Project STaRS Unit would consist of the following:

- Provide schedule tracking & oversight to ensure consistent, useful, and valid reporting of schedule information and validate the Dashboard
- "Police" the system to ensure consistent and accurate usage
- Increase visibility of non-compliance thus increased accountability
- Provide managers with schedule tracking reports to engage them in the process of usage enforcement
- Incorporate business process changes into Project STaRS standard networks
- Provide support and technical assistance
- Develop policy & procedures

PMii (Project STaRS) has been addressed in previous reports. The recommendations of a Project STaRS Unit and its function are consistent with the recommendations from those reports. Included below are some excerpts:

2004 Dye Management Report

- Conduct an expedited organizational readiness assessment; then establish and implement a change management plan for PMii.
- The change management plan to be successful needs to ensure that changes in business practices for PMii are defined and implemented.
- Strong consideration should be paid to making the recommended Program Management Office the business owner for PMii and associated project scheduling support.
- Design and implement a reporting system for program and project management monitoring and control.
- The recommended approach is to monitor the status of projects against no more than seven major milestones and to provide exception level reporting. The system would require all project managers to measure and report status using a consistent methodology at these milestones.
- The reporting system would store and report the standardized project status information using the procedures specified by this recommendation. NCDOT has work underway to design and implement a high-level reporting system. This should be expedited and reports provided in short order in advance of any automation.
- Stabilize the use of PMii to support scheduling, establish a management-level reporting system before further adding to PMii or instituting other information

technology projects. This recommendation will enable the PMii team to focus on production support and enable NCDOT to use a project scheduling system effectively.

2007 PBS&J Report

- The tool is only as good as the data and information that goes into it...accountability for project delivery can then be benchmarked, measured, and assessed.
- The PMii tool will also allow an Executive Reporting system so that NCDOT can pursue making high-level information regarding project status, program status, etc.,
- When these reports are made available on the Internet, it is possible to give everyone nearly "real-time" information at the same time.
- Begin to use PMii both as a project-management tool and as a broader reporting mechanism. This can be achieved easily within the next 6 months, as a technological challenge, if there is a leadership focus and commitment to it.

PROPOSAL

The Transformation Management Team (TMT) proposes that the Department of Transportation create a full-time Project STaRS Unit staffed with individuals dedicated to sustain our multi-million dollar SAP scheduling product. These individuals must have both a thorough understanding of DOT's current project development process and a strong knowledge of SAP R/3.

Currently there is a perception amongst the users of Project STaRS that there is no one true "owner" of the system. Even though Project STaRS allows numerous activity owners to feed it data and utilizes a Co-Project manager approach to take ownership of the schedule, there is inconsistent across-the-Department usage, no accountability for lack of usage, uncertainty as to the validity of the schedules, and no formal policies and procedures.

BACKGROUND AND ISSUES

♦ HISTORY

In May 2001, the development of a new scheduling "tool", known as PMii (Project Management Improvement Initiative), was initiated. This SAP R/3 application was (and still is) intended to provide the Department with a centralized, integrated schedule management tool that creates, develops, maintains, and communicates project schedules by allowing input from numerous groups having activity ownership within the system. This powerful, yet complex program has mapped the activities of various project types reflecting the current project development processes across the Department.

On May 17, 2004, PMii was placed into production – "Go Live".

In October 2004, Len Sanderson (former Highway Administrator) told Preconstruction staff that the use of PMii was a job requirement. He indicated that this system is the Department's "scheduling tool of choice" and that employees in the Preconstruction Units should be working towards this end.

On April 27,2007, the name for PMii was officially changed to "Project STaRS" (**S**cheduling, **T**racking, **a**nd **R**eporting **S**ystem).

COSTS

\$10.4 million: Development phase (May 2001 - May 2004)

\$2.2 million (est.): Change Requests (CR) and support through BSIP.

\$1.0 million: Contract -Consultant Support Program Development 2006 - 08.

\$\$ Unknown?: What the above costs do not include are the cost of DOT staff

members not on the PMii team that were...and still are... involved in the development, testing, change requests, enhancements, user group meetings, and training. This figure could easily be several more millions of dollars.

DEFINITION OF USERS

Co-Project Managers (Co-PM): Project Engineers from both PDEA and the RDU whose responsibility it is to "Co-Manage" the Forecast schedule. Coordination and communication is essential to make a "co-management" system effective, not only during the yearly TIP scheduling updates, but throughout the year.

Activity Managers & Work Center Managers: Personnel from units assigned to a project and have ownership of activities and activity elements in Project STaRS.

Executives: Personnel above the Co-PM, Activity Manager, and Work Center

Manager level that rely heavily on the accuracy of Project STaRS

to reflect a true and realistic schedule.

♦ HOW DOES PROJECT STARS WORK?

The core to scheduling of projects in Project STaRS is by the Critical Path Method. The Critical Path Method helps to identify the key activities that must be completed as part of a project. The activities and their relationships with each other act as the basis for the preparation of the project schedule and resource planning. During the management of a project, the Co-Project Managers monitor the achievement of project milestones and identify where corrective action needs to be taken to get a project back on course.

Activities are critical components of the project schedule. Each activity is assigned ownership to a particular group or unit in the Department, whose responsibility it is to monitor and manage. Each activity contains a standard duration, which should be adjusted to fit the specific project based on its scope and length. Activities usually have a predecessor and / or a successor activity thus making confirmation of completion or forecasting of completion dates a critical step in effective schedule monitoring and management. Each activity contains activity elements, which like activities, have ownership and must be managed. However, the main difference is activity elements do not contain duration; however, confirmation of their completion dictates when the parent activity can be final confirmed.

Two types of schedules reside in STaRS. The *Basic* schedule is considered the official STIP schedule and does not change unless a formal schedule change is approved or the schedule is revised during yearly TIP scheduling. The *Forecast* schedule is the "working" schedule and reflects the current state of the project schedule. This is where the scheduling data is maintained on a day-to-day basis by Activity Managers and Work Center Managers who are responsible for updating activity durations, adding forecast completion dates, confirming activity / element completions, and determining which activities / elements need to be "turned off" or "turned on". However, it is critical to note that everyone should be working towards the Basic schedule dates, but maintaining the Forecast schedule.

Executives should be involved in Project STaRS by means of monitoring, reporting on, and approving of project schedules. Executives rely heavily on the accuracy of Project STaRS to reflect a true and realistic schedule, but in many cases they require separate reporting tools that give real time feedback regarding the status of project schedules. One such tool is the Preconstruction Dashboard. It compares the "drift" between the Basic and Forecast dates on key project milestones to determine whether the project schedule is in a **red**, **yellow**, or **green** status as defined by certain criteria.

Currently, the Program Development Branch is considered the "owner" of the Basic schedule or STIP schedule. Co-Project Managers are considered the shared "owners" of the Forecast schedule. When the Basic schedule and the Forecast schedule drift too far apart...or the funding model requires movement of project schedules to balance funds...or Division priorities change...then the Forecast schedule is updated and a schedule change request is submitted. After receiving all the necessary approvals, the Program Development Branch overwrites the Basic schedule with the Forecast schedule.

♦ USAGE ISSUES

The following are some issues that have plagued the system since "Go Live":

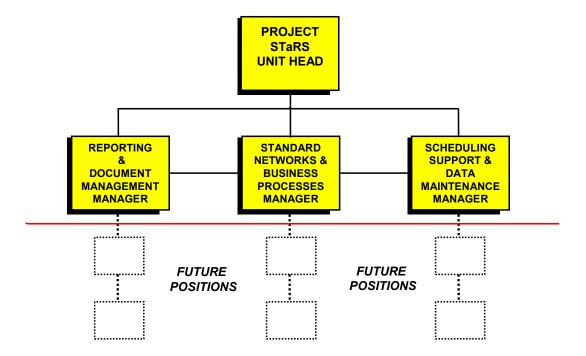
- The lack of consistent usage and enforcement of data maintenance is a major concern expressed by many users.
- Activity Managers are not consistently confirming completion of activities and activity elements
- Activity Managers are not consistently inputting forecast completion dates for activities that have started
- Unofficial estimate places overall usage at approximately 35%
- Len Sanderson's message back in October 2004 stating that noncompliance regarding PMii usage could mean someone could get fired has been seen as an empty threat.

- Inconsistent usage and lack of usage enforcement has Co-Project Managers feeling the need to constrain certain key project milestones in the Forecast schedule to match the Basic as a means to "manage" the schedule. Constraining the schedules in this method may artificially allow the dashboard status to display green.
- There is a feeling among Co-Project Managers and other users of the system that the initial Project STaRS schedules are "doomed" from the beginning because the STIP was not generated from the project development timeline established in standard networks.
- Time charges to the Activity and / or Activity Element level are not being done consistently. This has impact on schedules and the ability to use the system for resource planning.
- Many users feel they lack the necessary understanding of how to use the system and feel that the system is too complex.
- Co-Project Managers have become more like Project STaRS managers instead of project managers.
- Some units or groups are using other tools for scheduling and work planning and "Project STaRS" is considered secondary.
- Activity Managers don't fully understand their role in Project STaRS. Many managers are not holding their Activity Managers accountable for lack of usage due mainly to their own lack of understanding of how to track and report usage.
- Initial training efforts covered too much information and did not target the specific needs of the users. Future training should target the areas and issues that consistently plague the system.

PROJECT STARS UNIT DETAILS

The Project STaRS Unit should consist of the positions shown on the following organizational chart. The skills needed for these positions include, but are not limited to, (1) a thorough understanding of the project development process, (2) a strong knowledge of SAP R/3, and (3) good management abilities.

PROJECT STARS UNIT



RECOMMENDED DUTIES OF THE PROJECT STARS UNIT

Schedule Tracking & Oversight

- Monitor schedule "drift" between the Basic and Forecast schedules to validate the Preconstruction Dashboard information
- Track the schedules of key projects in the Department and provide monthly status reports to the appropriate upper level managers
- Work closely with the Project Executives and Department managers to keep project schedule changes highly visible
- Track "staleness" of forecast schedules utilizing an aging report (recent SAP enhancement), reschedule as needed (at least once every three months), and address schedule issues with appropriate Co-Project Managers and / or PDEA Regional Managers and Roadway Assistant Unit Heads.
- Track, record and report project delay issues for management investigation and response.

- Maintain schedule change history database to facilitate future Performance Audit reviews (There would be a need to create a database in SAP R/3 to store this information using the same category abbreviations used in the 2008 Performance Audit.)
- Expedite both the schedule change approval process and Basic Schedule update (overwriting Basic schedule with approved Forecast schedule)
- Facilitate the yearly TIP scheduling meetings between Co-PMs and others. Also generate Problem Project list and facilitate Problem Project meeting.

"Police" Usage of the System

- Review schedule status reports and contact appropriate Co-Project Manager and Activity Managers to address deficiencies
- Track and report on usage for each unit; i.e. schedule maintenance, charging time to activity / activity element level, etc.
- Oversee the maintenance of non-schedule related STaRS data project assignments, number of parcels & relocations, project length, structure types & number, milestone "clean-up", etc.

Involvement in Business Process Changes

- Maintain the Project STaRS Standard Network databases.
- Work with Units on their business procedures and process changes to efficiently integrate into the Standard Networks and, if necessary, existing operative projects.
- Hold quarterly meetings with key Executives to address issues or changes involving Project STaRS.

Provide Support and Technical Assistance

- There are a variety of schedule networks within Project STaRS that exist due to numerous changes made to the standards, but Co-Project Managers have not had the time or the advanced training to make these changes to their operative projects. This office could handle the time consuming changes to operative projects to allow more consistency with the standard networks.
- Answer questions and troubleshoot issues for PDEA & Roadway Co-PMs and Activity Managers

- Facilitate main Project STaRS User Group Meetings request agenda items, prepare agenda, create demos, and develop & post minutes.
- Participate in the unit-level user group meetings. These user groups would provide input for possible changes to the Project STaRS system and agenda topics for main user group meeting.
- Prepare and facilitate a yearly ½ day to one-day training workshop for Co-Project Managers and key Activity Managers to review and discuss Project STaRS issues.
- Work with Units that have their own internal schedule-related databases to incorporate them into the Project STaRS system (SAP R/3).
- Coordinate with IT to address enhancements, upgrades, fixes, etc. related to SAP R/3. This office should be the first point of contact for Project STaRS issues that require IT involvement.

Policy & Procedures

- Develop formal documented policies and procedures on how the Project STaRS system should be used.
- Establish a procedure that quickly and concisely distributes changes and updates
 to <u>all users</u> on how to use Project STaRS; i.e. policy changes, tips & tricks,
 system "bugs", etc. The Business Process Procedures (BPP) that exist on the
 website are great training materials but most users get lost in the volume of
 material.

WHAT THE PROJECT STARS UNIT IS NOT

This is <u>not</u> a Project Management office.

The purpose of this office is to provide <u>oversight</u> of the project schedules and provide <u>"ownership"</u> of the Project STaRS system. This office would be a resource for Project Executives, Co-Project Managers (or future Tri-managers), Activity Managers, and the Program Development Branch.

RATIONALE FOR A PROJECT STARS UNIT

The Scheduling Unit in the Program Development Branch is currently assigned some of the duties outlined in the PROPOSAL section above. However, the Legacy system (PMSS) of the past was much different than the Project STaRS system of today. PMSS was a static system that required only the managing of milestone dates and was not a scheduling tool. The complexity of Project STaRS has created challenges and issues for both the Scheduling Unit and the users of the system that have existed since "Go Live" in May 2004. A Project STaRS Unit would provide the support, guidance, and oversight that are desperately needed to make this system effective.

The data needed to update the forecast schedules is not being entered consistently across the Department, which raises concerns about the reliability of the project schedules and creates additional burden for the Co-PMs who are ultimately responsible for the schedules. A Project STaRS Unit would assist the Co-PMs by providing oversight of the schedules, addressing deficiencies with activity owners, and increasing visibility of non-compliance thus increasing accountability.

Scheduling meetings occurring throughout the year (planning document review meetings, 6-month R/W meetings, let review meetings, and yearly STIP scheduling meetings) could be more effective by utilizing "unedited" customized SAP R/3 and / or Business Intelligence (BI) reports. A Project STaRS Unit would be the mechanism that makes sure that reporting of schedule information is consistent, useful, and valid. Reporting for managers is a major step towards moving our Department to a performance-based organization and developing a reliable and valid Preconstruction Dashboard.

Managers across the Department should be supporting the efforts to keep the data upto-date and enforce a policy that non-compliance is <u>not</u> acceptable. A Project STaRS Unit would support this effort by providing assistance to Co-Project Managers, Activity Managers, Program Development (TIP Development), and Department Executives.

The following excerpts from the 2004 Dye Management Report and the 2007 PBS&J Report regarding PMii support the rationale for a Project STaRS Unit.

2004 Dye Management Report

"Conduct an expedited organizational readiness assessment; then establish and implement a change management plan for PMii."

"The intent of this recommendation is to address the risk factors identified through this study regarding the use of PMii to support improved project management. The change management plan to be successful needs to ensure that changes in business practices for PMii are defined and implemented. Further, where changes in work performance and procedures are necessary for PMii to provide the basis for project delivery scheduling and execution, a plan for expedited implementation should be established. Strong consideration should be paid to making the recommended Program Management Office the business owner for PMii and associated project scheduling support. "

"Design and implement a reporting system for program and project management monitoring and control."

"This recommendation is to provide for the monitoring of project status against schedule, budget, and scope. PMii implementation will not provide this information. The recommended approach is to monitor the status of projects against no more than seven major milestones and to provide exception level reporting. The system would require all project managers to measure and report status using a consistent methodology at these milestones. This type of information would provide rolled-up multi-project, program-level information on the cost to deliver the projects as programmed. updated project delivery schedules, and other key information. The information could then be used by the Program Delivery Management team to support their oversight role for project control. In addition, summary-level project status information should be provided on NCDOT's website like Virginia does with their "Project Dashboard." The recommended reporting system requires the prior implementation of Recommendation 7.2 which establishes standardized business rules, roles, and responsibilities for project delivery. The reporting system would store and report the standardized project status information using the procedures specified by this recommendation. NCDOT has work underway to design and implement a high-level reporting system. This should be expedited and reports provided in short order in advance of any automation. "

"Stabilize the use of PMii to support scheduling, establish a management-level reporting system before further adding to PMii or instituting other information technology projects."

"This recommendation will enable the PMii team to focus on production support and enable NCDOT to use a project scheduling system effectively. It also recognizes that any further information technology initiatives should be business-driven with quantifiable benefits based on the reduction in cost and project delivery time."

2007 PBS&J Report

"The tool is only as good as the data and information that goes into it and only if it is used to track projects, identify problems, assist resolution of those problems, and identify an owner (or owners) of the project. Accountability for project delivery can then be benchmarked, measured, and assessed."

"The PMii tool will also allow an Executive Reporting system so that NCDOT can pursue making high-level information regarding project status, program status, etc., available to both internal senior managers and external stakeholders (e.g., legislative leaders and the taxpayers of North Carolina)... The transparency created by providing this information in clear and concise style has enormous benefits in building public confidence and support, and in assuring that problem projects or programs are identified and resolved. And when these reports are

made available on the Internet, it is possible to give everyone nearly "real-time" information at the same time."

"Begin to use PMii both as a project-management tool and as a broader reporting mechanism. This can be achieved easily within the next 6 months, as a technological challenge, if there is a leadership focus and commitment to it."

BENEFITS OF A "PROJECT STARS" UNIT

- It will help promote consistent, across-the-board usage of Project STaRS thus increasing reliability, validity, and accountability in STIP scheduling
- A successful and diligent Project STaRS Unit will make sure that the Preconstruction Dashboard reports an accurate project status that has not been "made to show green".
- Accurate and reliable schedules will eventually allow the Department to use the Project STaRS tool for resource tracking and planning.
- Reliability in Project STaRS will allow the TIP Development Unit to generate STIP funding dates using the standard mapped business process networks.
- Effective and efficient project schedule tracking will increase project delivery performance.
- Co-Project Managers can spend more time managing their projects and not feeling overwhelmed with Project STaRS management.
- Although the initial efforts of a Project STaRS Unit would be to increase the
 reliability of STIP schedules by the Preconstruction Units, the creation of this office
 would help facilitate the use of Project STaRS in other areas of the Department, i.e.
 Construction, Divisions, Transit, etc.







PROJECT STARS

(formerly PMii)



TEAM MEMBERS

Ron Allen (Team Lead)	.Assistant State Roadway Design Engineer, currently serving on the Performance Metrics Team of the TMT
Jimmy Norris	. Currently under contract with the Program Development Branch, Retired with 30 years at NCDOT, working several years as a Project Engineer in the Roadway Design Unit
Stan MacIntyre	. SAP Consultant currently in the BSIPS / Project Systems group of IT
Majed Al-Ghandour	Assistant Branch Manager-Program Management in the Program Development Branch
Brian Yamamoto	PDEA, Consultant Engineer Unit Head
Greg Brew	.Project Engineer, Roadway Design Unit

TMT Oversight Mark Tyler & Burt Tasaico



MISSION

Increase reliability, validity, and accountability in STIP scheduling through consistent, across-the-board usage of Project STaRS and emphasize that it is THE scheduling and reporting tool for the Department.

ESTIMATED COSTS OF PROJECT STaRS (PMii)

• \$10.4 million - Development phase (May 2001 - May 2004)

• \$2.2 million (est.) - Change Requests (CR) & BSIP support

• \$1.0 million - Program Development contract for 2006 - 08

\$\$ unknown??



FINDINGS

Currently there is a perception amongst the Project STaRS users that there is no one true "owner" of the system. Even though Project STaRS allows numerous activity owners to feed it data and it utilizes a Co-Project manager approach to take ownership of the schedule, there is inconsistent across-the-Department usage, no accountability for lack of usage, uncertainty as to the validity of the schedules, and no formal policies and procedures.

MAJOR ISSUES TO ADDRESS

Dashboard validation

Consistent, Across-the-Department Usage

Management Support & Engagement

MAJOR ISSUES TO ADDRESS

Dashboard validation

Consistent, Across-the-Department Usage

Management Support & Engagement

MAJOR ISSUES TO ADDRESS

Dashboard validation

Consistent, Across-the-Department Usage

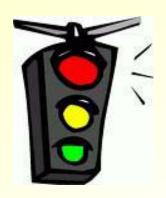
Management Support & Engagement



Preconstruction Dashboard

Compares the "drift" between the Basic & Forecast schedules on four major milestones:

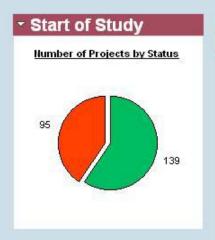
- Start of Study
- Environmental Document
- R/W Plans Sent
- Let

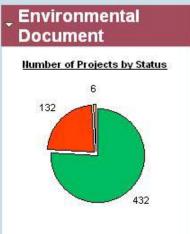


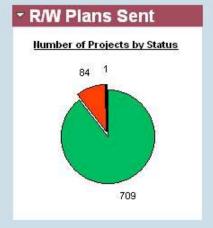


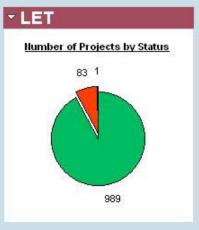
Preconstruction Dashboard

Pre-Construction Project Schedule Status



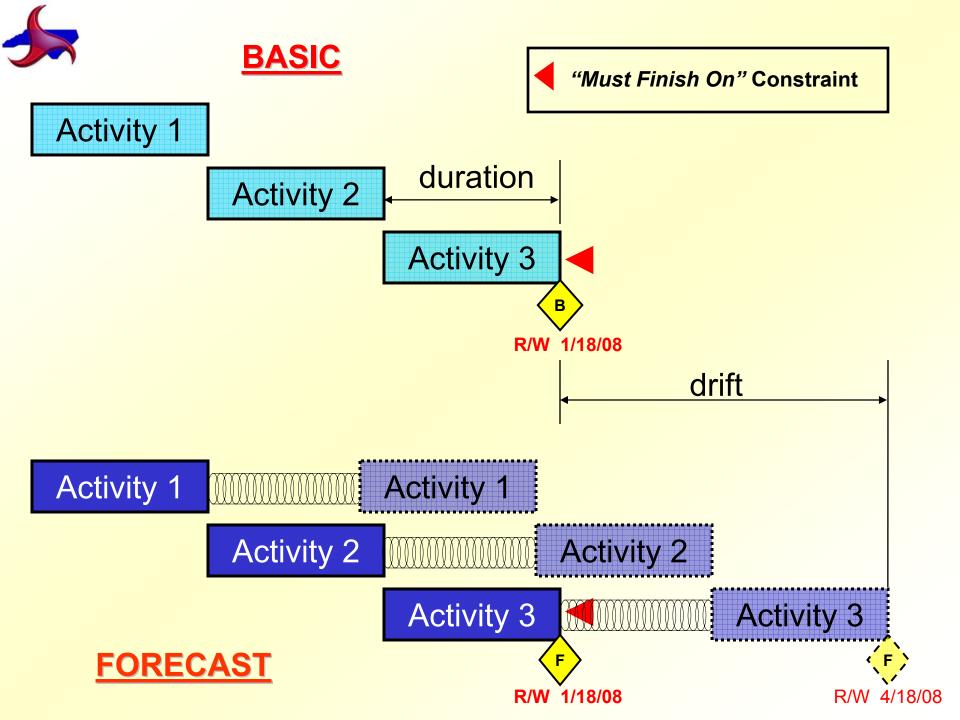






PDEA CoPM	(All)	Design CoPM	(All)
Type of Project	(All)	TIP Let Fiscal Year	(All) Range
Di∨ision	(All)	Funding Source	(All) 💌
County	(All)	Status	(All) Submit

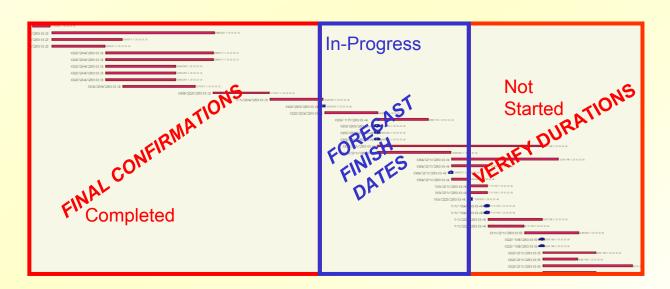
Home Funding Status Individual Project





There are only two reasons that the Basic and Forecast Schedules should drift apart ...

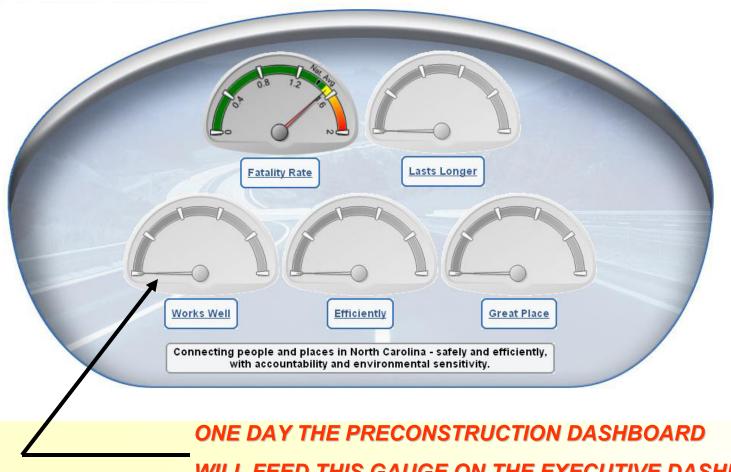
- (1) The project is truly behind schedule due to heavy workload, resource issues, poor project management, etc.
- (2) Poor schedule upkeep & data maintenance in Project STaRS.



WE NEED TO CORRECT ITEM 2
BEFORE WE CAN MANAGE ITEM 1



NCDOT ORGANIZATIONAL PERFORMANCE DASHBOARD



WILL FEED THIS GAUGE ON THE EXECUTIVE DASHBOARD



LACK OF CONSISTENT USAGE

 Activity Managers are not consistently confirming completion of activities and activity elements

 Activity Managers are not consistently inputting forecast completion dates for activities that have started

Unofficial estimate places overall usage at approximately 35%

 Many users feel they lack the necessary understanding of how to use the system and feel that the system is too complex. Activity Managers don't fully understand their role in Project STaRS.



ENFORCEMENT OF DATA MAINTENANCE

- Len Sanderson's message in October 2004 stating that noncompliance regarding PMii usage could mean someone could get fired has been seen as an empty threat.
- Time charges to the Activity and / or Activity Element level are not being done consistently.
- Other tools for scheduling and work planning are being used in lieu of "Project STaRS".
- Many managers are not holding their Activity Managers
 accountable for lack of usage due mainly to their own lack of
 understanding of how to track and report usage.



SCHEDULING ISSUES DUE TO POOR USAGE

 Co-Project Managers have become more like Project STaRS managers instead of project managers.

 Constraining forecast schedules may artificially allow the dashboard status to display green.

 Many feel the schedules set in Project STaRS are "doomed" from the beginning because the STIP was not generated from the project development timeline established in standard networks.



Recommendation

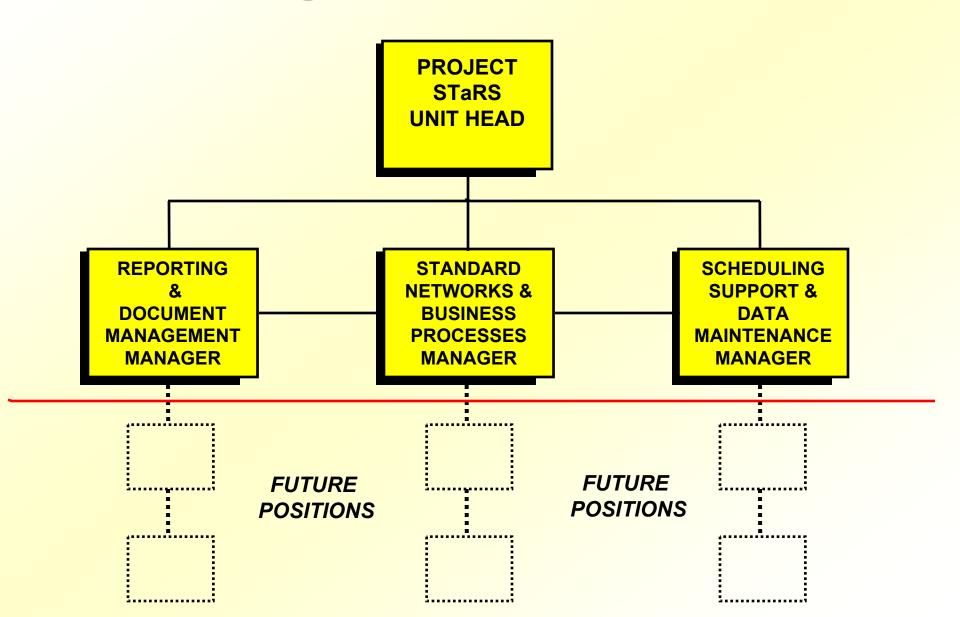
Create a full-time "Project STaRS" Office (PSO) staffed with individuals dedicated to sustain our multi-million dollar SAP scheduling product. These individuals must have both a thorough understanding of DOT's current project development process and a strong knowledge of SAP R/3.

Without it... our multi-million \$\$ investment is like money down the drain





Project STaRS Office





DUTIES OF A "PROJECT STARS" OFFICE

SCHEDULE TRACKING & OVERSIGHT

"POLICE" USAGE OF THE SYSTEM

INVOLVEMENT IN BUSINESS PROCESS CHANGES

PROVIDE SUPPORT AND TECHNICAL ASSISTANCE

POLICY & PROCEDURES



SCHEDULE TRACKING & OVERSIGHT

- Monitor schedule "drift" between the Basic and Forecast schedules to validate the Preconstruction Dashboard information
- Track and report on schedules of key projects and provide monthly status reports to Project Executives
- Work closely with the Project Executives and Department managers to keep project schedule changes highly visible
- Track "staleness" of forecast schedules and reschedule as needed (at least once every three months) and address scheduling issues
- Track, record and report project delay issues for management investigation and response.



SCHEDULE TRACKING & OVERSIGHT, cont'd

Expedite schedule change approval process and Basic Schedule update

 Maintain schedule change history database to facilitate future Performance Audit reviews.

 Facilitate the yearly TIP scheduling meetings between Co-PMs and others. Also generate Problem Project list and facilitate Problem Project meeting.



"POLICE" USAGE OF THE SYSTEM

 Review schedule status reports and contact appropriate Co-Project Manager and Activity Managers to address deficiencies

 Track and report on usage for each unit; i.e. schedule maintenance, charging time to activity / activity element level, etc.

 Oversee the maintenance of non-schedule related STaRS data – project assignments, number of parcels & relocations, project length, structure types & number, milestone "clean-up", etc.



INVOLVEMENT IN BUSINESS PROCESS CHANGES

Maintain the Project STaRS Standard Network databases.

 Work with Units on their business procedures and process changes to efficiently integrate into the Standard Networks and, if necessary, existing operative projects.

 Hold quarterly meetings with key Executives to address issues or changes involving Project STaRS.



PROVIDE SUPPORT AND TECHNICAL ASSISTANCE

- When needed, make changes to operative projects to allow more consistency with the standard networks.
- Answer questions and troubleshoot issues for PDEA & Roadway Co-PMs and Activity Managers
- Facilitate Main Project STaRS User Group Meetings request agenda items, prepare agenda, create demos, and develop & post minutes.
- Participate in the unit-level user group meetings as needed.
- Prepare and facilitate a yearly ½ day to one-day training workshop for Co-Project Managers and Activity Managers
- Work with Units that have their own internal schedule-related databases to incorporate them into the Project STaRS system (SAP R/3).
- Coordinate with IT to address enhancements, upgrades, fixes, etc. related to SAP R/3.



POLICY & PROCEDURES

 Develop formal documented policies and procedures on how the Project STaRS system should be used.

 Establish a procedure that quickly and concisely distributes changes and updates to all users on how to use Project STaRS; i.e. policy changes, tips & tricks, system "bugs", etc. The Business Process Procedures (BPP) that exist on the website are great training materials but most users get lost in the volume of material.



BENEFITS OF A PSO

- It will help promote consistent, across-the-board usage of Project STaRS thus increasing reliability, validity, and accountability in STIP scheduling
- A successful and diligent PSO will make sure that the Preconstruction Dashboard reports an accurate project status that has not been "made to show green".
- Accurate and reliable schedules will eventually allow the Department to use the Project STaRS tool for resource tracking and planning.
- Reliability in Project STaRS will allow the TIP Development Unit to generate STIP funding dates using the standard mapped business process networks.



BENEFITS OF A PSO

 Effective and efficient project schedule tracking will increase project delivery performance.

 Co-Project Managers can spend more time managing their projects and not feeling overwhelmed with Project STaRS management.

 Although the initial efforts of a PSO would be to increase the reliability of STIP schedules by the Preconstruction Units, the creation of this office would help facilitate the use of Project STaRS in other areas of the Department, i.e. Construction, Divisions, Transit, etc.



THIS IS <u>NOT</u> A PROJECT MANAGEMENT OFFICE.

Provide <u>oversight</u> of the project schedules.

Provide "<u>ownership</u>" of the Project STaRS system.



Implementation Strategy

- (1) Create job posting for PSO Unit Head & post by February 29, 2008
- (2) Upon filling of Unit Head position, begin drafting transition plan
- (3) Post 3 manager positions by April 15, 2008 (est.)
- (4) Implement transition plan by July 1, 2008 (est.)



QUESTIONS?



PROJECT STARS Vorkshop

June 25, 2008

AGENDA

Why are we here today?.....Ron

- Transformation
- -Performance Metrics
- -Dashboard
- -Usage Issues





Project STaRS Issues...... Jimmy

User's Roles

Responsibility of Activity Managers

Time Charges

Scheduling

Resource Planning

Streamlining

Process Changes Forecast Aging Report

Milestones Deliverable Tracking

Open To Traffic Indicator Reporting





AGENDA

• Summation..... Ron



· Q&A





WHY ARE WE HERE TODAY?

Transformation

Performance Metrics

Executive Dashboard

Preconstruction Dashboard

Consistent, Across-the-Department Usage

FIVE KEY TRANSFORMATION INITIATIVES

Strategic Direction

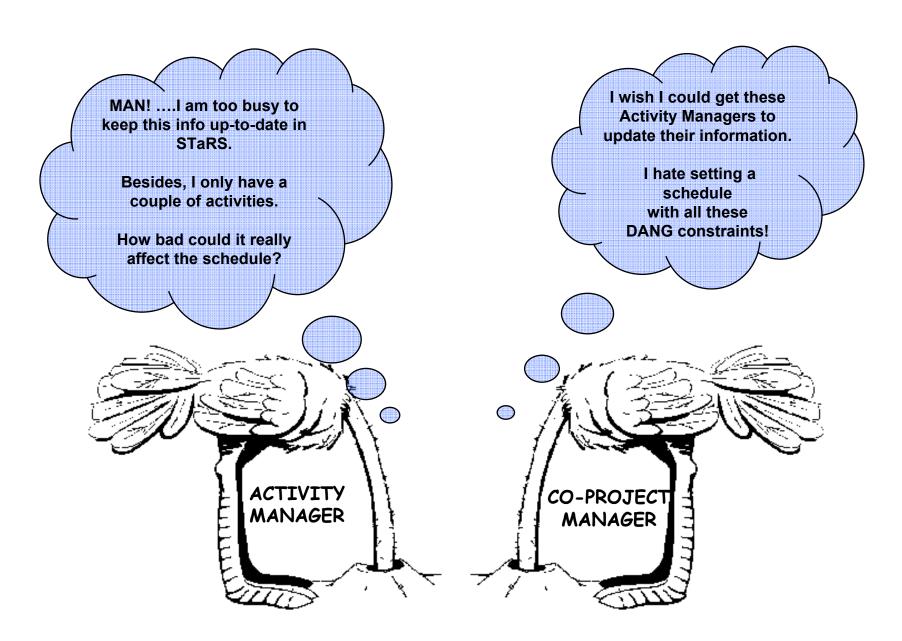
Program and Project Delivery

Planning and Prioritization

Performance & Accountability

Improved Human Resource Mgt

TRANSFORMATION



PERFORMANCE METRICS

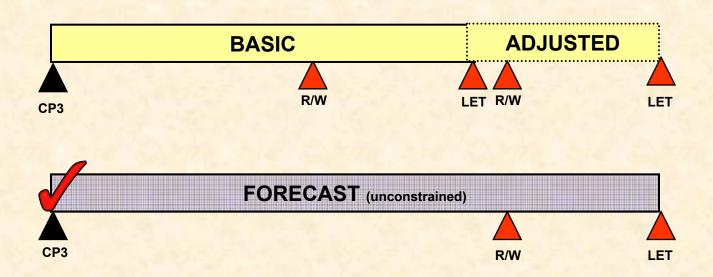


Milestone "Trigger" Points

PROJECT TYPE	MILESTONE		
Bridge Replacement Projects	Field Scoping Meeting (FSM) or Concurrence Point 3		
Minor Improvement & Other Projects	Funding Approved		
Major Widening Projects	EA Approved or Concurrence Point 3		
New Location Projects	Concurrence Point 3		

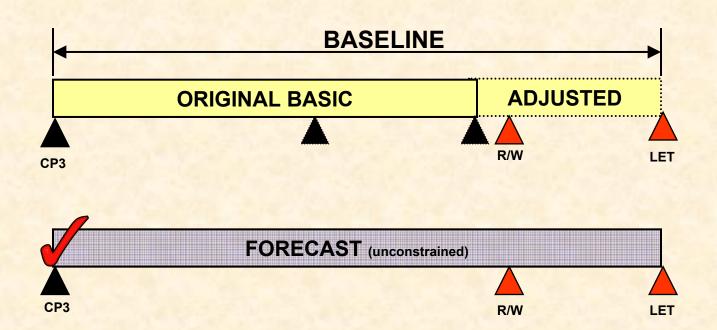
Example

Upon achieving Concurrence Point 3 for New Location Projects, the Forecast schedule should be rescheduled to create a new Basic schedule.



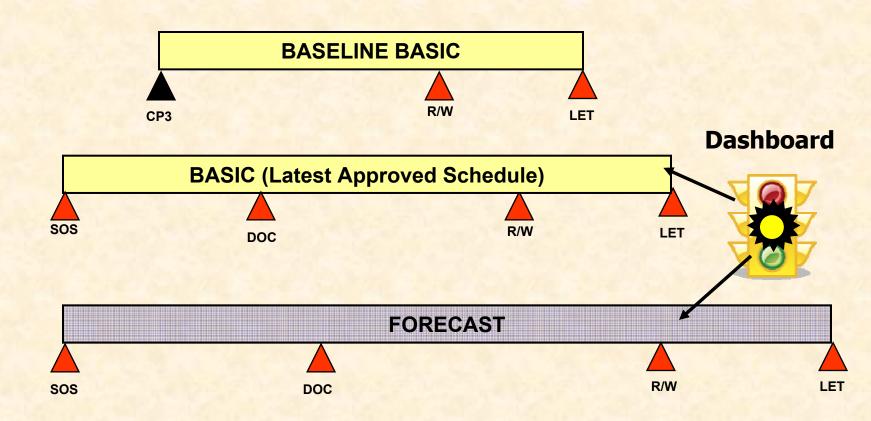
Preconstruction Scheduling Metrics

The Basic schedule at this point in the project would become the baseline for future performance audit reporting.



Preconstruction Scheduling Metrics

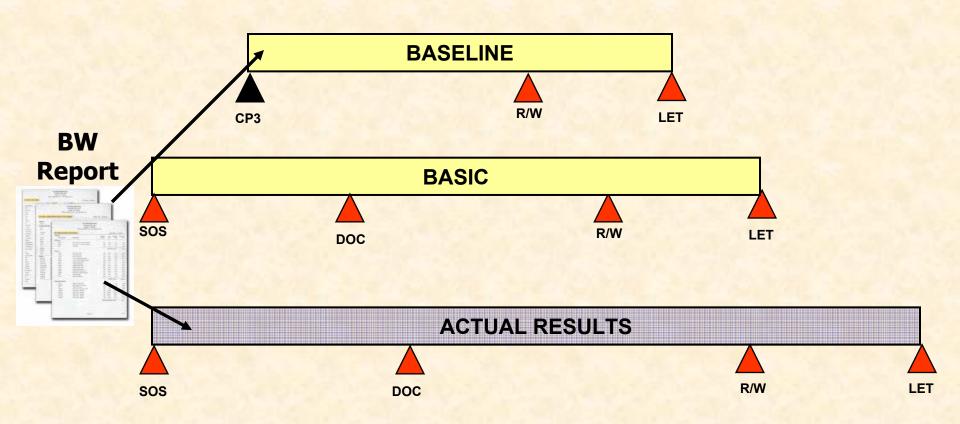
The Dashboard RYG status will be generated by the Forecast being compared against the <u>latest approved schedule</u>.



Preconstruction Scheduling Metrics

However...

The Baseline schedule will be recorded for future performance audit reporting to compare it against actual results.



NCDOT Goals: (1) Make our transportation network safer. Name: Debbie Barbour

(2) Make our transportation network move people and goods more efficiently.

(3) Make our infrastructure last longer.

(4) Make our organization a place that works well. (5) Make our organization a great place to work.

Position/Title: Director of Preconstruction

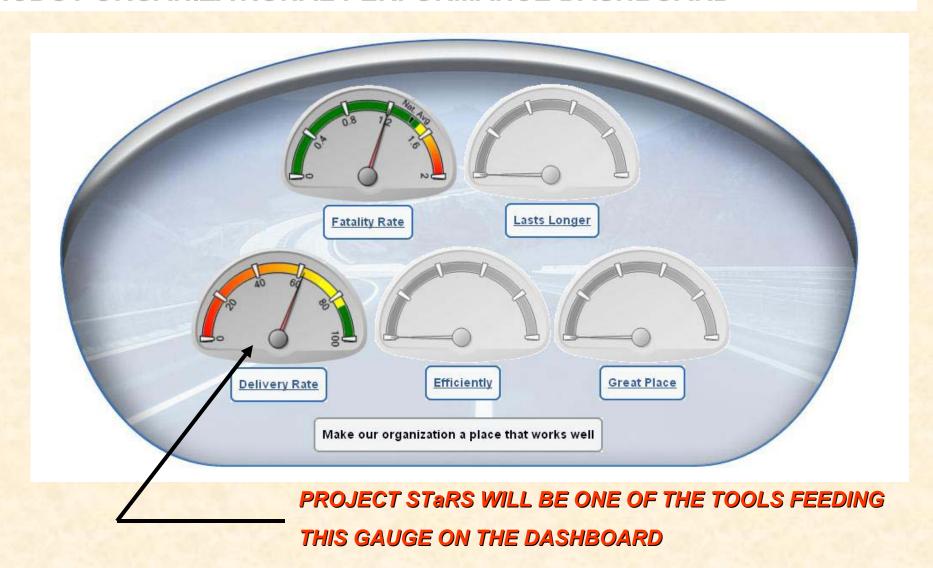
PERFORMANCE DASHBOARD AND APPRAISAL WORKSHEET

Goal	Metric	Metric Definition	Target	Data Source	Wt (%)
1	Crash Rate	Reduce 5 Year Statewide Average (Crash Rate per 100 Million Vehicle Miles Traveled)	233.03- 263.46	Traffic Engineering	5%
3	Infrastructure Health & Performance	Improve Index Score (3 Year avg.) toward goal	68-72	Asset Management	2.5%
2,3&	Projects/Programs/ Services on Schedule, Budget and Scope A. Projects/Programs on Schedule		Composite		87.5%
		NEPA Documents completed within rating period versus those planned	70-85%	STaRS & PDEA	20%
		Projects sent for Right of Way Acquisition within rating period versus those planned	70-85%	STaRS & Program Development Branch	20%
		3.% Projects let to contract within rating period versus those planned	70-85%	STaRS & Program Development Branch	20%
		4.% Projects construction completed on time	70-85%	HiCams & <mark>SAP</mark>	2.5%
	B. Projects on Budget		Composite		10%

DASHBOARDS



NCDOT ORGANIZATIONAL PERFORMANCE DASHBOARD



Preconstruction Dashboard

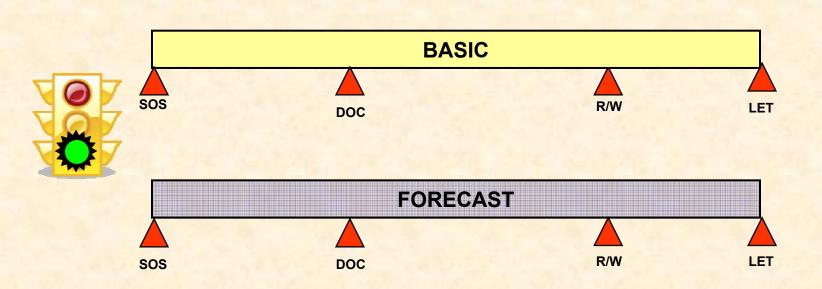
Evaluates "drift" between the Basic & Forecast

- Start of Study
- Environmental Document
- R/W Plans Sent
- Let



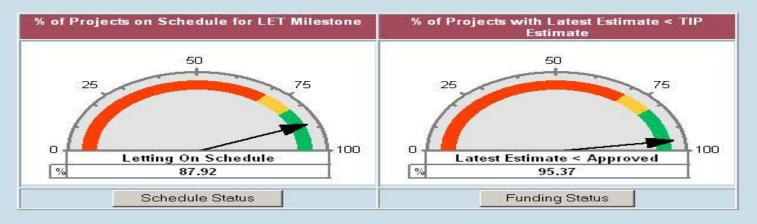
Preconstruction Scheduling Metrics

The Dashboard is currently configured to compare milestones in the Basic (the latest approved schedule) vs. the Forecast (current status) to determine the red, yellow, & green status.

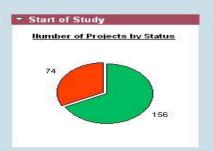


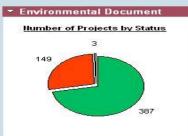
Preconstruction Dashboard

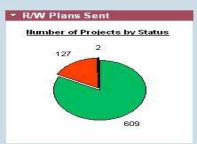
Pre-Construction Project Status Dashboard

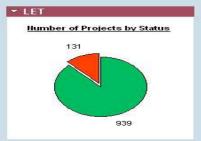


Pre-Construction Project Schedule Status



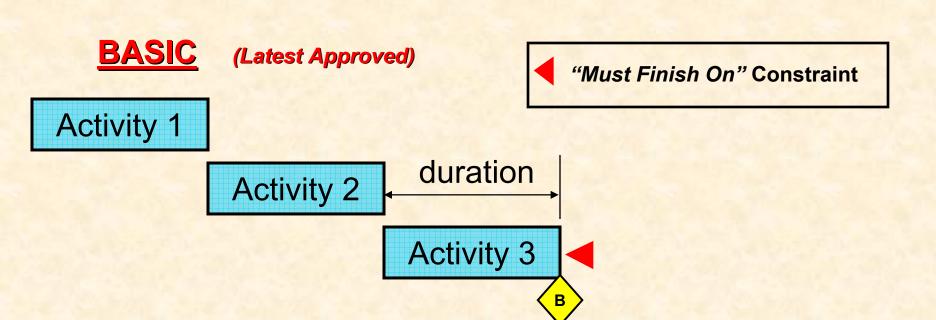






PDEA CoPM	(All)	Design CoPM	(All)
Type of Project	(All)	TIP Let Fiscal Year	(All) ▼ Range ቖ
Division	(All)	Funding Source	(All) •
County	(All)	Status	(All) Submit

Home Funding Status Individual Project



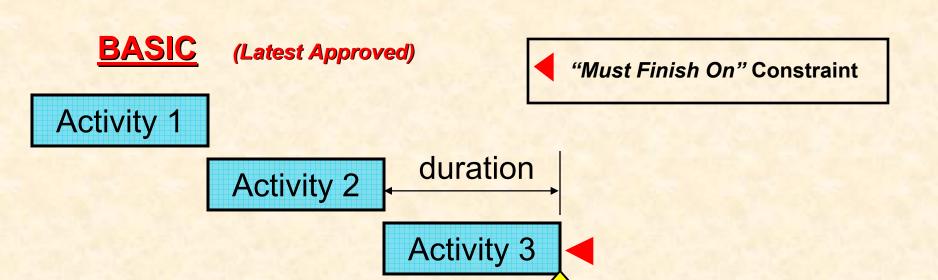
FORECAST (Status)

Activity 1

Activity 2

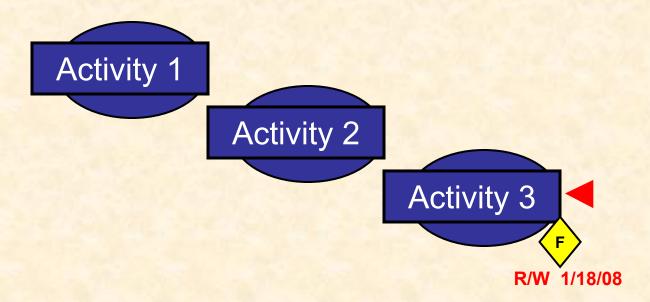


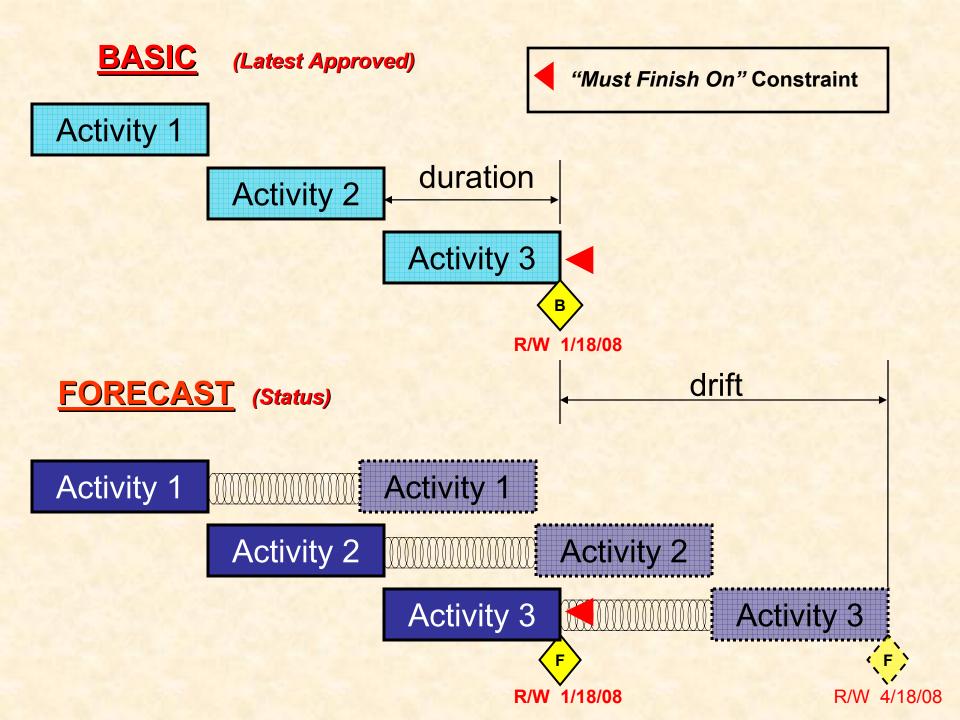
R/W 1/18/08



R/W 1/18/08

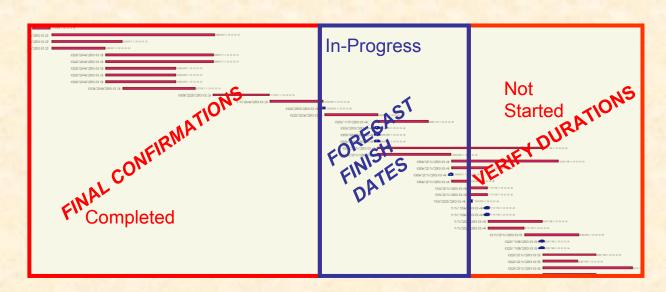
FORECAST (Status)





There are only two reasons that the Basic and Forecast Schedules should drift apart ...

- (1) The project is truly behind schedule due to heavy workload, resource issues, poor project management, etc.
- (2) Poor schedule upkeep & data maintenance in Project STaRS.



WE NEED TO CORRECT ITEM 2 BEFORE WE CAN MANAGE ITEM 1

USAGE ISSUES



WHAT ARE THE ISSUES?



WHAT ARE THE USAGE ISSUES?

- ☐ Estimated proper usage 35%
- Activity Managers may not fully understand their role in Project STaRS.

Activity Completion confirmations / forecast finish dates / durations

- Constraint scheduling BASIC (approved) vs. FORECAST (status)
- Improper time charges
 - (1) Impacts how the system interprets information when the project is rescheduled
 - (2) Affects ability to track resources
- Some users feel that because the system does not accommodate all their needs and are using other tools for scheduling and work planning in lieu of Project STaRS.
- Many managers are not holding their staff accountable due to their own lack of understanding of how to track and report usage.



RESULTS OF INCONSISTENT & IMPROPER USAGE

 Co-Project Managers have become more like Project STaRS managers instead of project managers.

 Constraining forecast schedules may artificially allow the dashboard status to display "green".

 Initial Project STaRS schedules may be "doomed" from the beginning because the STIP was not generated from the project timeline established in the standard networks. (Backward scheduling)

Poor schedule data impacts resource planning

"VICIOUS CYCLE"

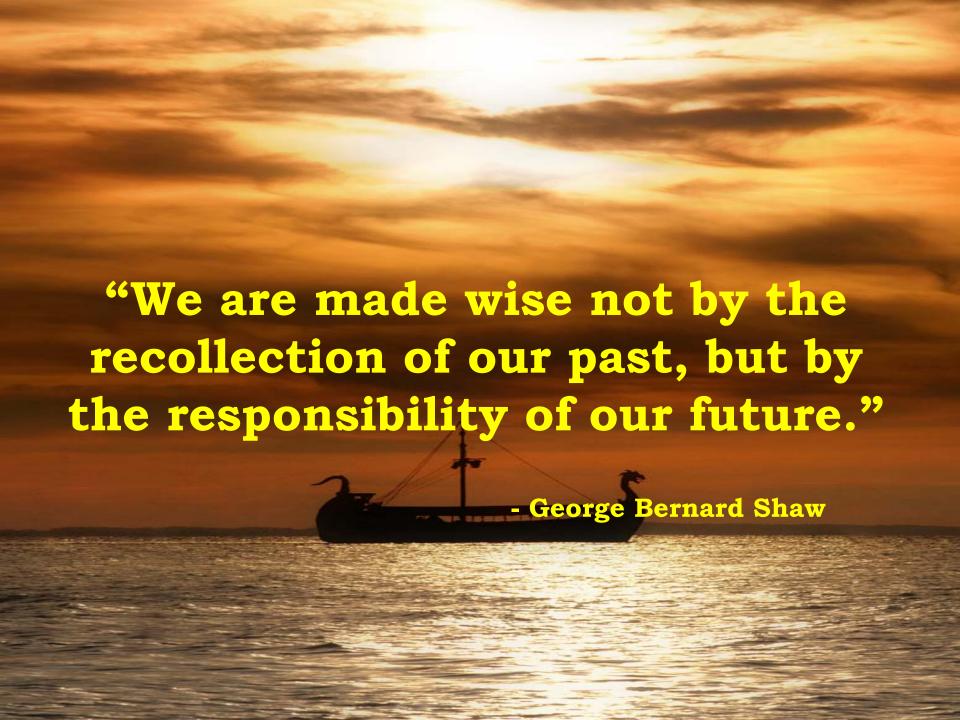


HOLD ON TIGHT!





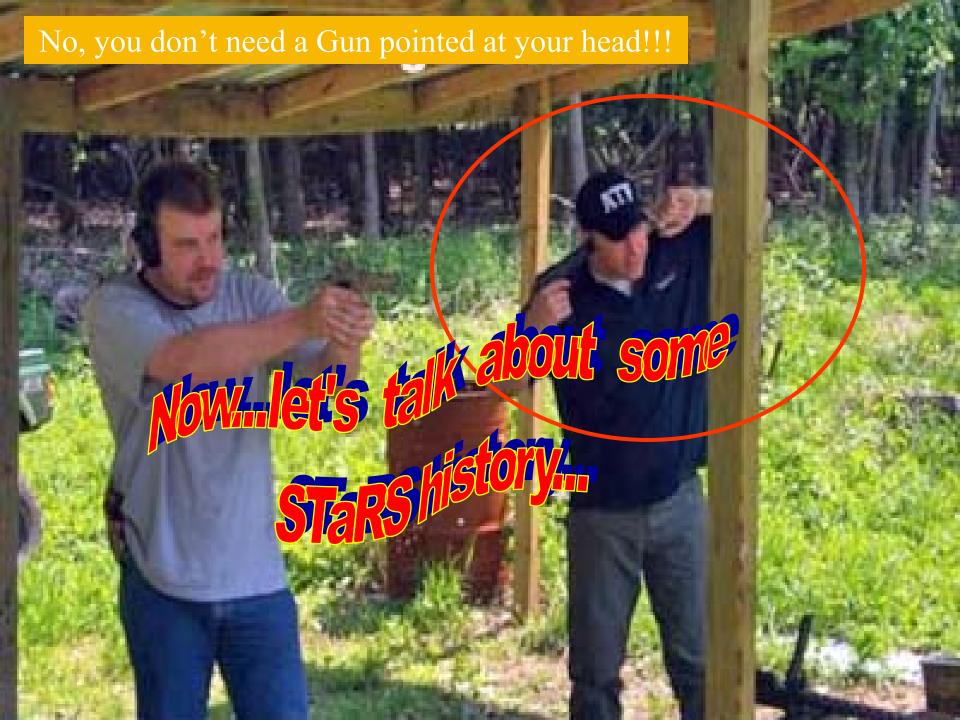




Workshop Guidelines

questions vill be allowed unless you signed up previously for permission o speak.

For those that old not sign up, Ill comments/que tives can be left via voice mail on the phone removed that have to be determined



OLD vs. NEW

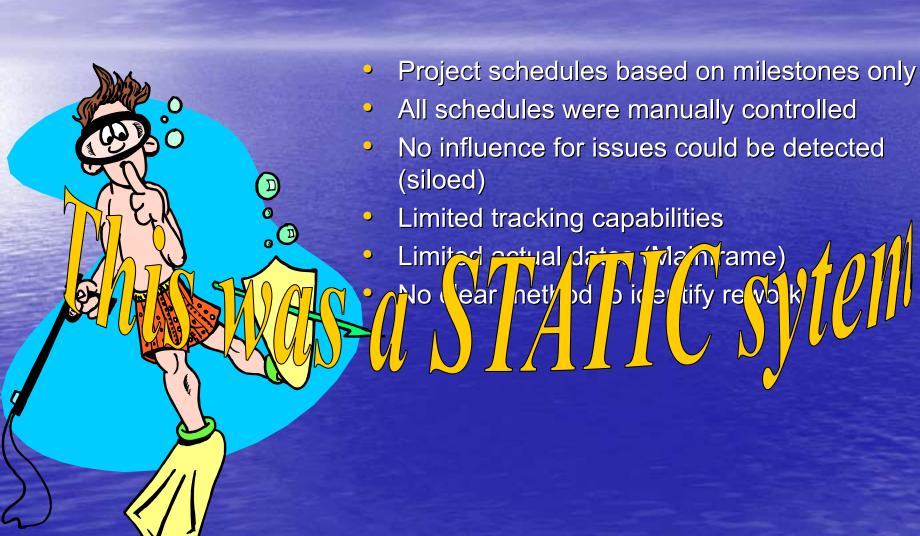
EVOLUTION

- May 1997 NCDOT, FHWA, & USACE signed interagency agreement to integrate Section 404 Clean Water Act and the National Environmental Policy Act into NC transportation projects. The need for a enterprise-wide scheduling system to map out the process was identified.
- Early 2000, The Project Management improvement initiative (PMii) was started. Standard process maps (networks) based on different project types were developed. The intent was to create uniformity in project scheduling. Users were solicited across the Department for their feedback processes and baseline durations.
- The initial goal was to keep it simple.....However !!!!





THE OLD WAY....



WHAT KIND OF SCHEDULING SYSTEM DO WE WANT?

Static?

- Show <u>only</u> major milestones & deliverables similar to PMSS
- Use silo approach to scheduling making it very difficult to know the current status of project

Dynamic?



- Enterprise-wide usage allowing input into a single system
- Report accurate and current project status as needed
- Resource Management

USER ROLES

Activity Managers

Co-Project Managers

Program Development



ROLES

- NO!! Project STaRS is not going away
- Project STaRS is <u>the</u> main Scheduling and Reporting tool of the NCDOT for all STIP Projects
- You are expected to maintain this system as part of your job responsibilities
- Reporting for performance metrics and project status will be used to monitor usage

MANAGERS & THEIR ROLES

Activity Managers

Co-Project Managers

Responsible for maintaining activities &...

Responsible for maintaining project schedules &...

updating activities.

monitoring activity status.

Poor input or lack of input can have...

Reschedule forecast schedules to update status of project &...

detrimental impacts on project schedules.

document schedule changes.

PROGRAM DEVELOPMENT

- Build Standard Structures for STIP projects
- Process schedule changes
- Update Basic schedules from Forecast
- Routine reporting
- SAP R/3 PS enhancements
- Technical support
- Process system change notifications
- Website updates for Project STaRS

RESPONSIBILTY OF ACTIVITY MANAGERS

Activity Maintenance

Final Confirmations

Forecast Finish Dates

Duration Adjustments

Time Charges

LACK OF PROJECT STaRS DATA MAINTENANCE AFFECTS...



ACTIVITY MAINTENANCE

Activity

Activity A

Activity B

Activity D

Activity E

Activity C

ACTIVITY MAINTENANCE

Activity

Activity A

Activity B

Forecast Finish date applied.

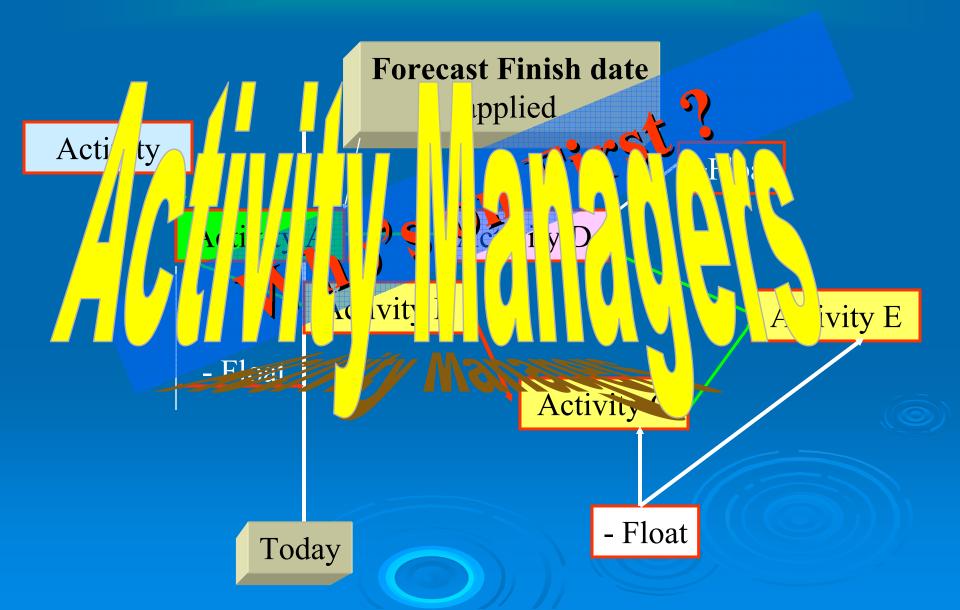
Activity D

Activity E

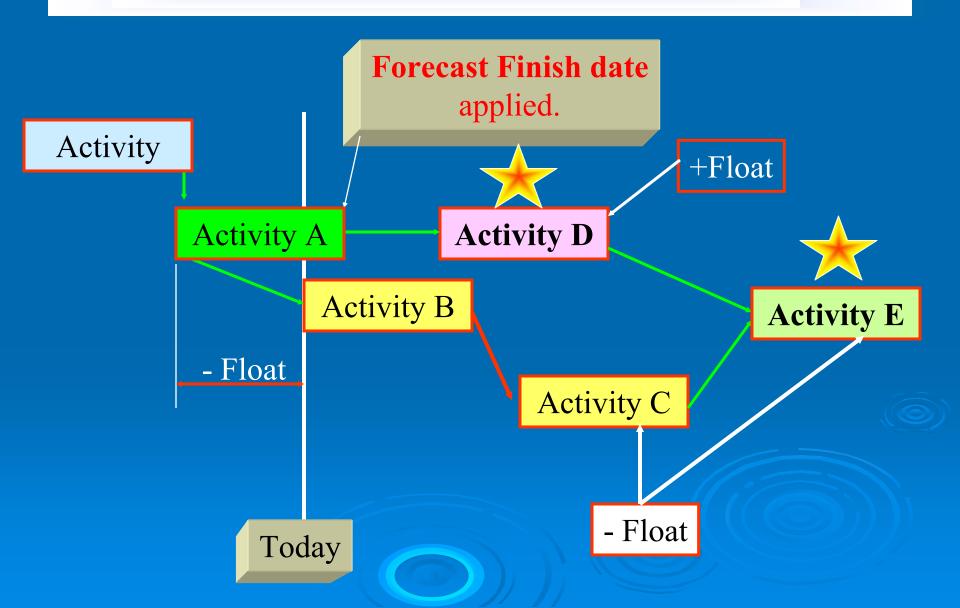
Activity C

Not started or Not Maintained

ACTIVITY MAINTENANCE



Dashboard



Dashboard & Status Reports

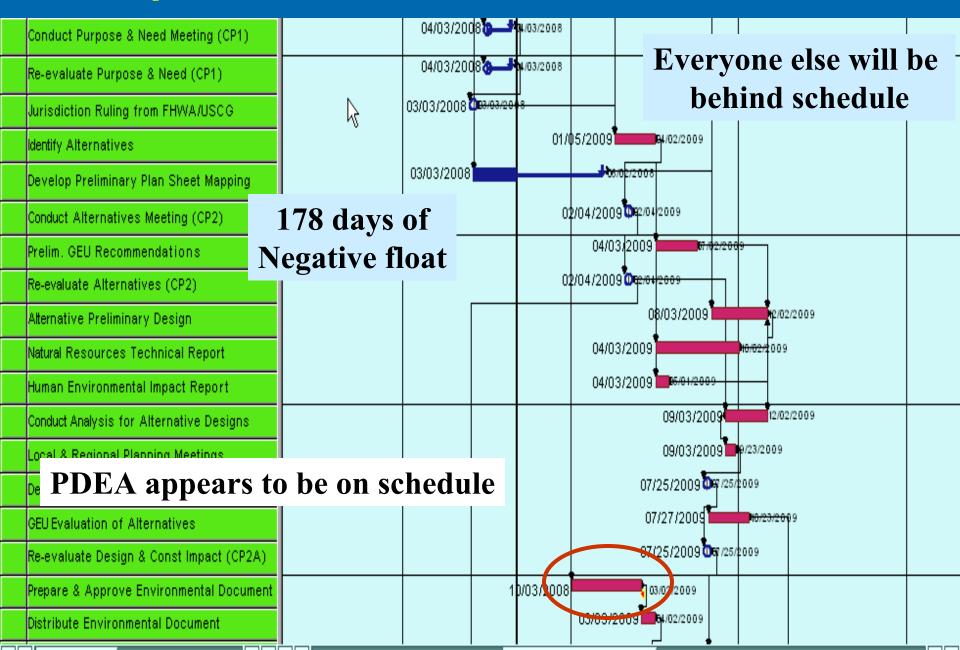
➤ If the preconstruction dashboard were to look at all activities other than the Planning Document, R/W, and LET milestones, would the results be GREEN or RED?

If Activity status reports are run to compare the basic to forecast, what would the results show...LATE or ON TIME?

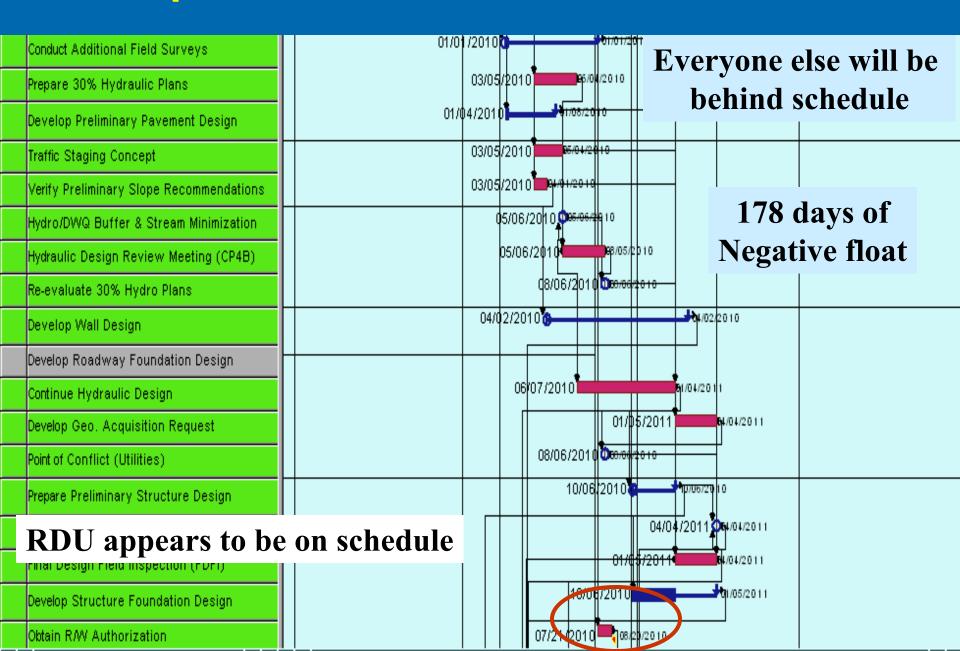


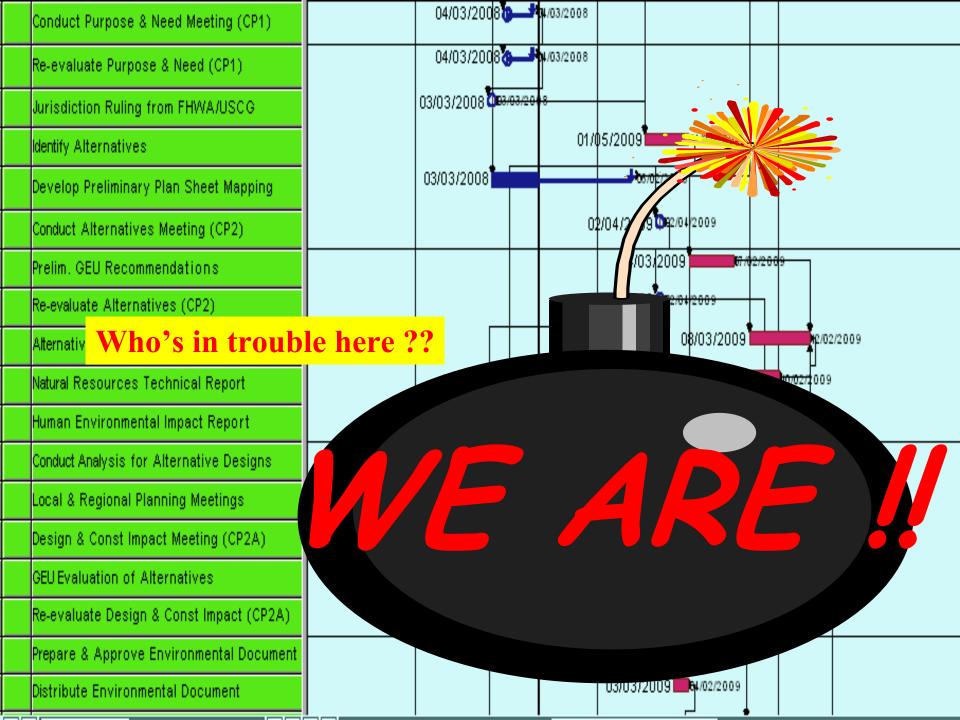
Does this mean that

Impact of Schedules with Constraints



Impact of Schedules with Constraints





ACTIVITY MAINTENANCE

> Performance Metrics based on deliverables

- Status reports to compile metrics data
- Proper maintenance will be critical to your & DOT's performance metrics
- Critical to future DOT performance audits

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0000) Issue Start of Study Letter POEA Project Development	see Start of Study Letter									
0030) Called Project Scoping Data POEA Project Development		Project								
0070] Conduct Project Scroping Meeting POEA Project Development	noted Project Scaping Meeting									
000 International Workship POEA Project Development	Informational Workshop									
000) Compile Project Recommendations POEA Project Development	mple Pojett Resummendal	ines								
0100 Comple Purpose & Need Data PDEA Project Development	Managle Propose & Ne									
010) Conduct Purpose & Need Meeting (CP FOEA Project Development	Harter Fupos & N		Docu	m						
015) Develop Environmental Features Map PDEA Project Development		nnnestal Features Map	DUC				_			
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0140] Prepare Functional Design Roadway Design		Nanapus (
01801 Alternatives Screening Meeting FOEA Project Development		VEHAUTO .								
OROL Conduct Attenuatives Meeting (CP2) FDEA Project Development										
0180] Juradition Ruling from FHIKAUSCG FOEA Project Development										
0901 Request Environmental Input FOEA Project Development	-						EU —			
0230] Delineate Wetlands & Streams POEA NEU Project Management 0240] Verification of Wetlands & Streams POEA NEU Project Management										
	-		erga for Alternatives							
0250 Preiminary Design for Afternatives Roadway Design			Fonduit Analysis for Alternative Design							
0280] Conduct Analysis for Alternative Desig PDEA Project Development	-	Interdence & Engage								
0290] Threatened & Endangered Species FOEA NEU Project Management 03001 Natural Resources Technical Report FOEA NEU Project Management	-		nes Certainal Report							
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0360] Refinement of Alternatives Roadway Design 0380] Design & Const. Impact Meeting (CP2 PDEA Project Development						GCC				
USDO) Push A Const Impact Meeting Ciriz Proba Project Vereiopment 0370 Section 7 Consultation Process POEA MEU Project Management	-				Consultation Process					
0300 Prepare & Approve Environmental Do PDEA Project Development					V102404011 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
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0330] Contor Design Maps Roadway Design 0400] Distribute Environmental Document PDEA Project Development	-						4:1:4:00			
040) District Ethioninenia vostinen Puba Project Vereiopment 040) Prepare & Sutint 404 Merger Applicat PDEA Project Development						— U1	tilities			
0430 Conduct Post Public Hearing Meeting Roadway Design	-		xd Public He							
040) Conduct EDPA Meeting (CP3) FOEA Project Development	-		Amout LEDPA M							
040) Conduct Mininization Meeting (CP4A) POEA Project Development	-				Genduct Minimization Meeting (CP44)					
0470 Pregate & Approve FEIS PDEA Project Development	-				Prepare & Approve FEIS					
040) Districte Approved FEIS FOER Project Development					Jajetribute Approved FEIS					
040) Address Public Connects & Issue R POEA Project Development	-				dities Public Connents & Issue RO					
0810) Pregate Preliminary Plans Roadway Design										
08101 Final Design Field Inspection (FDFI) Roadway Design					Final Design Field Inspection (FDFI)					
0330) Oxfair RW Authorization FO Project Management & Scheduling	Pr &	rinai —			Final Design Field Inspection (FDFI) Obtain RW Authorization					
1275] Final T & E. Review POEA MEU Project Management					■¶nd T &	E Review				
(300) Pregate & Submit Permit Applications POEK MEU Project Management	Plan	C				Prepare & Submit Permit Applications				
(310) Pre-Let Field Inspection (PLFI) Roadway Design						Re-Let Field Inspection (PLFI)				
1330) Develop Final Plans & Specifications Roadway Design	-					evelop Fina Plans & Specifications				
1990 Final Design Paskage Assembly Roadway Design						■Final Design Paolage Assembly				
(AUS) Perrits Received POEA NEU Project Management	-					Pemits Received				
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and hereeting commercement to commerce mines						present unus as contract Let	9			

Remember this slide

Activity Managers

Co-Project Managers

Responsible for maintaining activities &

Responsible for maintaining project schedules &

updating activities.

Monitoring activity status.

Poor input or lack of input can have

Reschedule forecast schedules to update status of project &

detrimental impacts on project schedules.

Document Schedule changes.

DEMO of ZCNS47

"HOW TO EFFICIENTLY MAINTAIN ACTIVITIES ON YOUR PROJECTS"

Using Forecast dates

- Is this really different from PMSS
- > NO!
- In either of the old systems you had to go in and put in dates for Documents, TLOC, THYD etc;
- What were these dates ????
- You entered an E (estimated completion date)
- > They were **FORECAST DATES**
- Once you finished you entered a (completion date/Confirmation !!!!!!
- > SO what is the real difference ?????

TIME CHARGES

TIME CHARGES

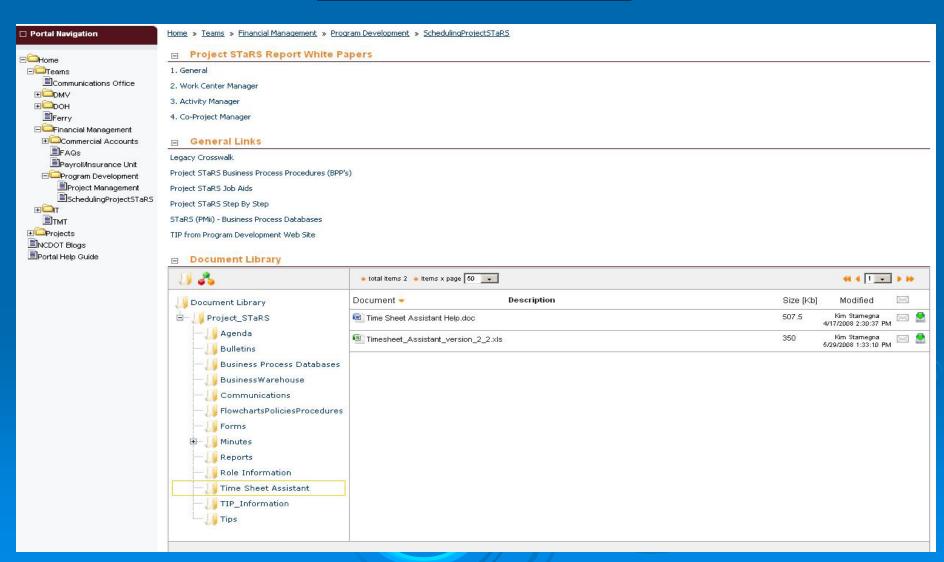
- Charge to the appropriate activity/element
- Review the activity start date
- Don't charge just to charge
- If starting early on an activity notify Activity Manager and Co-Project Manager
- Don't TECO an element that you will not be working on (use PS99)



TIMESHEET ASSISTANT What's It For?

- To help You charge your project time to the appropriate Network Activity or Element
- To save You time
- Provide a "sign-able" hard copy
- Won't help you look up WBS numbers
- Queries SAP R/3 for current data

Where Can I Find It? On the Portal



TSA Search Rules

> It Looks For:

- PS06 Only
- Released Status (Not CRTD, CNF, CLSD, AALK)
- If The Activity Is Confirmed, Its Elements Are Filtered Out

> Include Your:

- Work center number
- TIP Numbers

DEMO of TIME SHEET ASSISTANT

by **Stan MacIntyre**

NON-PROJECT CHARGES

Beginning State FY '09

Training

HRTR - Human Resources Training (ADA, Ethics, etc.)

SFTR - Safety Training (First Aid, Hearing Test, etc.)

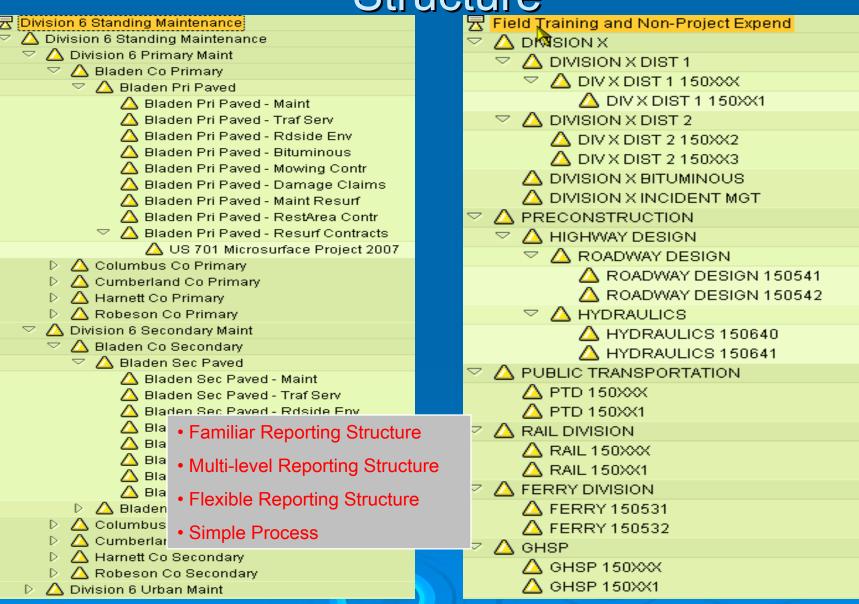
LSTR - Leadership Training (LMDA)

TCTR - Technical Training (SBP, Career Banding, etc.)

ADMIN

Administrative Function (Email, HR Packages, etc.)

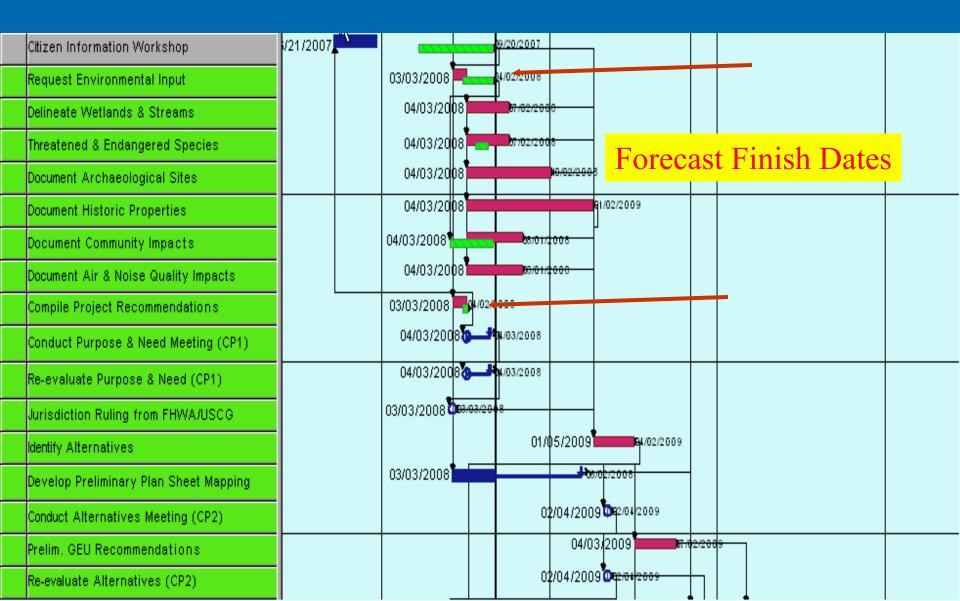
Existing Maintenance vs. Overhead Structure



Activity Managers... YOU are responsible for

- > Adjusting activity durations
- Applying Forecast Finish dates once the activity has started
- Confirming activities once they are complete
- Notifying Co-Project Managers of any rework activities to be added to project
- Charging time to the appropriate activity/element

TIME CHARGES & MAINTENANCE



ACTIVITY MAINTENANCE

Why are we pushing this issue so hard?

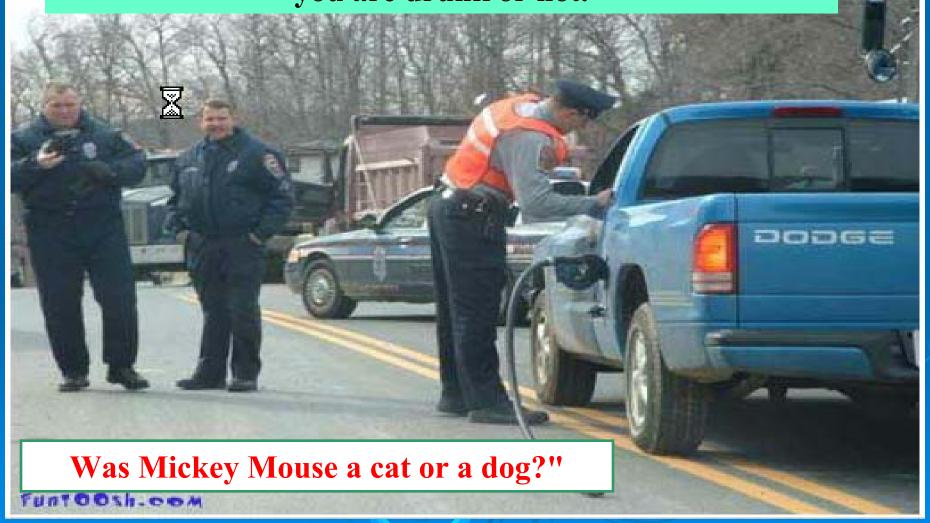
- > (1) A New Scheduling Philosophy is coming
- > (2) Lack of schedule maintenance affects us all

Think about the process Remove the Bumps.



Address the Issues

"The answer to this last question will determine whether you are drunk or not.





SCHEDULING



Unconstrained Forecast Schedules

Broken Project Structures

Scheduling Types

Scheduling Guidelines & Concepts

"Wisdom will keep you from getting into situations where you need it."

UNCONSTRAINED FORECAST SCHEDULES

Basic vs. Forecast - Preconstruction Dashboard - Current Project Status

A NEW SCHEDULING
PHILOSOPHY

NO CONSTRAINTS WILL BE USED IN THE FORECAST SCHEDULE

The intent of this is to allow the system to truly reflect the current project status in reporting and on the Dashboard.



This change in philosophy could also help to identify possible flaws in our business processes.

There are always exceptions:

- 1- When an activity needs to be controlled by the calendar such as the T&E studies, a CANNOT START BEFORE constraint is allowed.
- 2- If a part of the project needs to be delayed a CANNOT START BEFORE constraint is allowed; i.e. R/W for Part A is FY 09 & Part B is FY 10

- 3- During schedule changes or development of a new TIP project, R/W & Let date constraints are temporarily required in the forecast because these milestones occur on specific days of the month. Once completed, these constraints should be removed from the forecast schedule.
- 4- When a project is to be flown early a Must START ON constraint is allowed. (See slides for *New Process changes*)

UNCONSTRAINED SCHEDULES

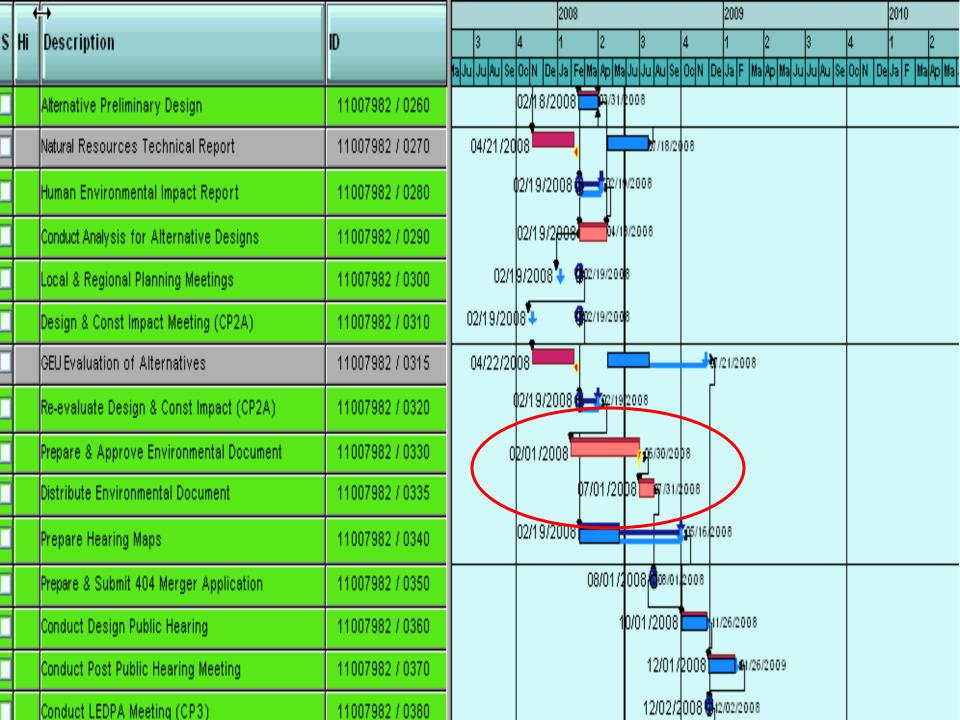
- Asked to review project list
- Debbie Barbour's PDA list.
- Reviewed 25% of approx. 100 projects
- > 85% did not match STIP.
- > 15% were within 1mon +/-.
- At 85% Dash Board critical activities ranged from 3 months to 1+ year difference.

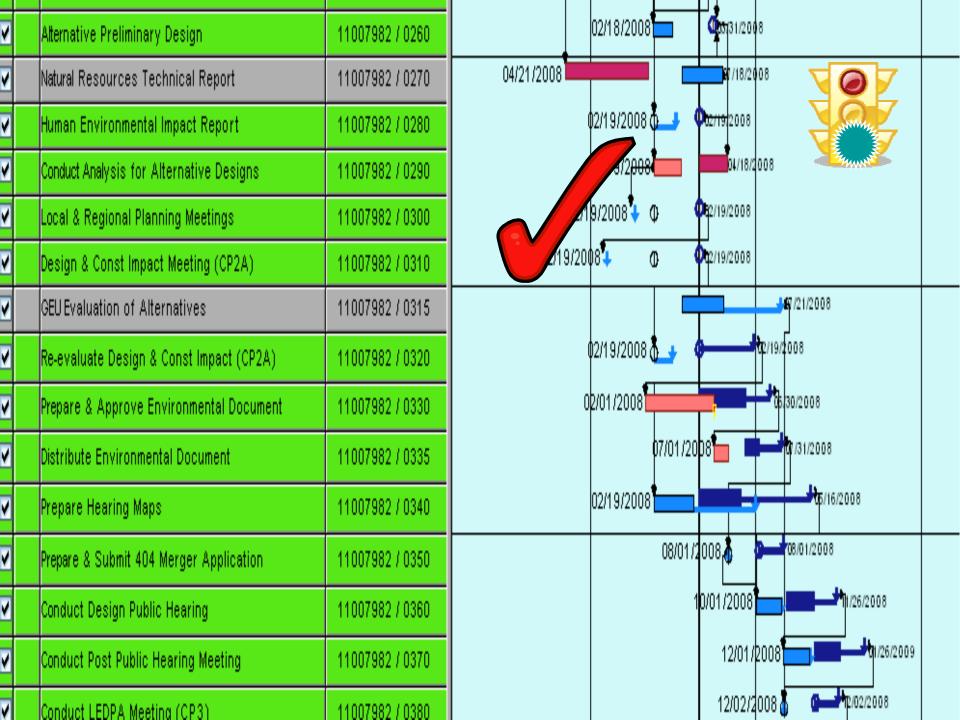


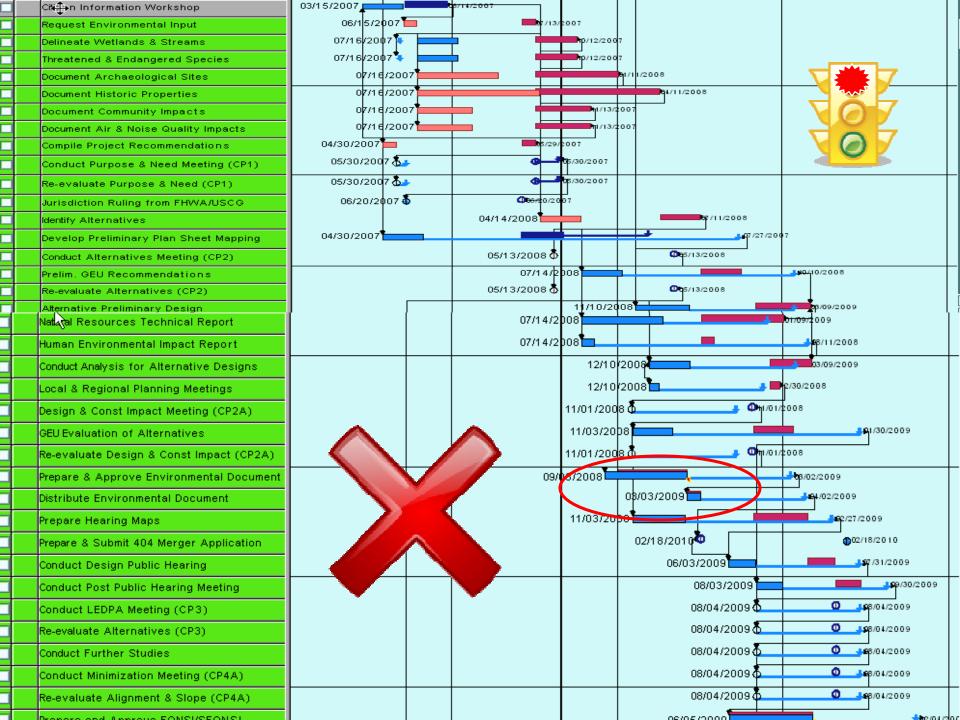
UNCONSTRAINED SCHEDULES

- Differences caused by ???
- The 15% appears to be accurate schedules and should swing back
 & forth in dashboard on schedule
- The 85% showed a general across the board lack of maintenance

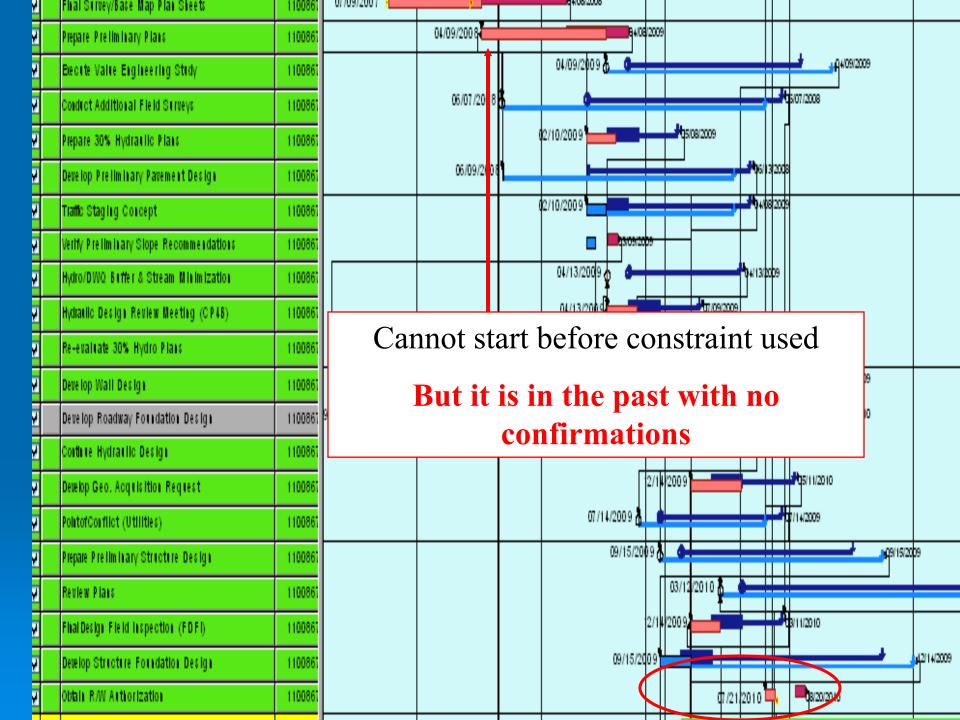


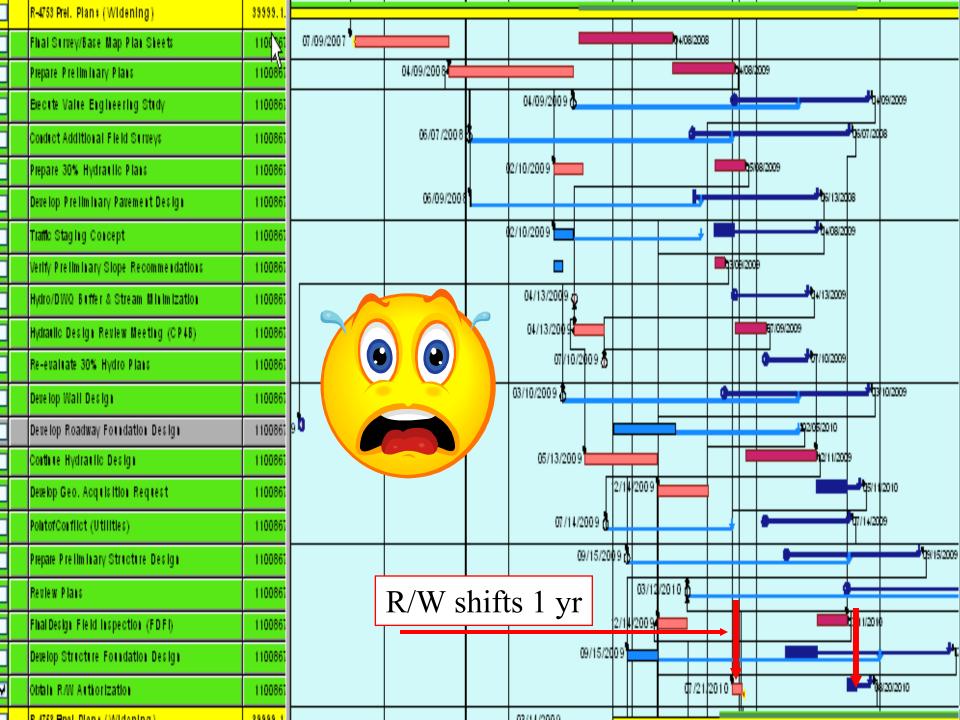






Y	Citizen Information Workshop	F	5/14/2007				
y y	Request Environmental Input	06/15/2007			p		
V	Delineate Wetlands & Streams	07/16/2007	•		0/12/2007		
Ŋ	Threatened & Endangered Species	07/16/2007	• 🗔		2/2007		
y y	Document Archaeological Sites	07/18/2007			1/11/2008		
Y	Document Historic Properties	07/18/2007			b 4/11/2008	7 7	
Ŋ	Document Community Impacts	07/18/2007			1/13/2007		
Ŋ	Document Air & Noise Quality Impacts	07/18/2007			1/13/2007		
Ŋ	Compile Project Recommendations	(30/2007		05/29/200			
Ŋ	Conduct Purpose & Need Meeting (CP1))5/30/2007 🦫		0 06/30/200	7		
y	Re-evaluate Purpose & Need (CP1))5/30/2007 & -		0 06/30/200	7		
	Jurisdiction Ruling from FHWA/USCG	06/20/2007 🖟		65/20/2007			
Ŋ	Identify Alternatives		04/14/2008		E /11/200		
Ŋ	Develop Preliminary Plan Sheet Mapping	30/2007			,	3 to /27 /2007	
V	Conduct Alternatives Meeting (CP2)		05/13/2008 🕏		Фe5/13/2008		
y	Prelim. GEU Recommendations		07/14/2	008		p/10/2008	
v	Re-evaluate Alternatives (CP2)		05/13/2008 🕏		O c5/13/2008		
v	Alternative Preliminary Design			11/10/20	08	53/09/2009	
Ŋ	Natural Resources Technical Report		07/14/2	008		01/09/2 009	
>	Human Environmental Impact Report		07/14/20	08		B/11/2008	
١	Conduct Analysis for Alternative Designs			12/10	(2008	03/09/2009	
S S	Local & Regional Planning Meetings			12/10	2008	2 /30/2008	
))	Design & Const Impact Meeting (CP2A)			11/01/200		21/2008	
>	GEU Evaluation of Alternatives			11/03/20	08	1/30/2009	
>	Re-evaluate Design & Const Impact (CP2A)			11/01/200	8 🐧 🕒	Ф п /01/2008	
Y	Prepare & Approve Environmental Document		09/01	3/2008		3 8/02/2009	
3 3 3 3	Distribute Environmental Document				08/03/2009	1/02/2009	
	Prepare Hearing Maps			11/93/20	18	te/21/2009	
>	Prepare & Submit 404 Merger Application					2/18/2010 ⊕ ∞2/18/2010	
>	Conduct Design Public Hearing				06/03/2009		
>	Conduct Post Public Hearing Meeting				08/03/2009	→ • • • • • • • • • • • • • • • • • • •	/2009
V	Conduct LEDPA Meeting (CP3)				08/04/2009	 Ф6 8/04/2009	
V	Re-evaluate Alternatives (CP3)				08/04/2009	⊅ Ø 8/04/2009	
V	Conduct Further Studies				08/04/2009	Ф 8/04/2009	
)))))	Conduct Minimization Meeting (CP4A)				08/04/2009	→ Ф 8/04/2009	
V	Re-evaluate Alignment & Slope (CP4A)				08/04/2009	→ Ф 8/04/2009	





Activity Managers... YOU are responsible for

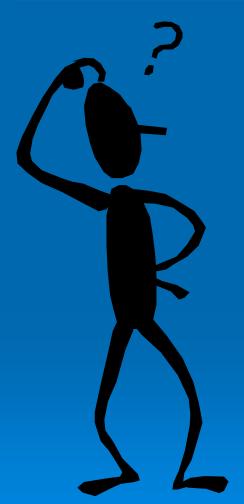
- > Adjusting activity durations
- Applying Forecast Finish dates once the activity has started
- Confirming activities once they are complete
- Notifying Co-Project Managers of any rework activities to be added to project
- Charging time to the appropriate activity/element

ROUTINE RESCHEDULING

- Co-Project Managers need to routinely reschedule unconstrained forecast schedules to update the activity status (at least once every 3 months).
- Even if after the reschedule the critical milestones (Doc, R/W, Let) do not change enough to warrant a schedule change request, you should still save this schedule and notify Program Development to transfer the Forecast to the Basic
- This gives all users and the Dashboard a new schedule to start with (the pendulum effect)

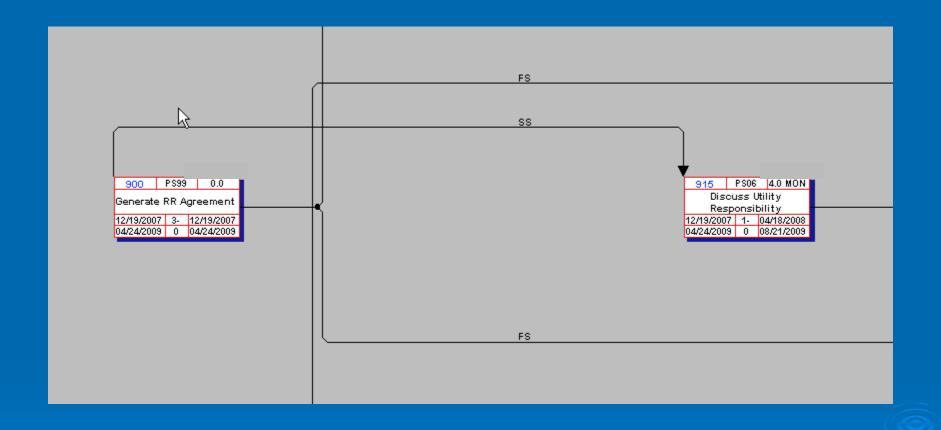
BROKEN PROJECT STRUCTURES

BROKEN PROJECT STRUCTURES



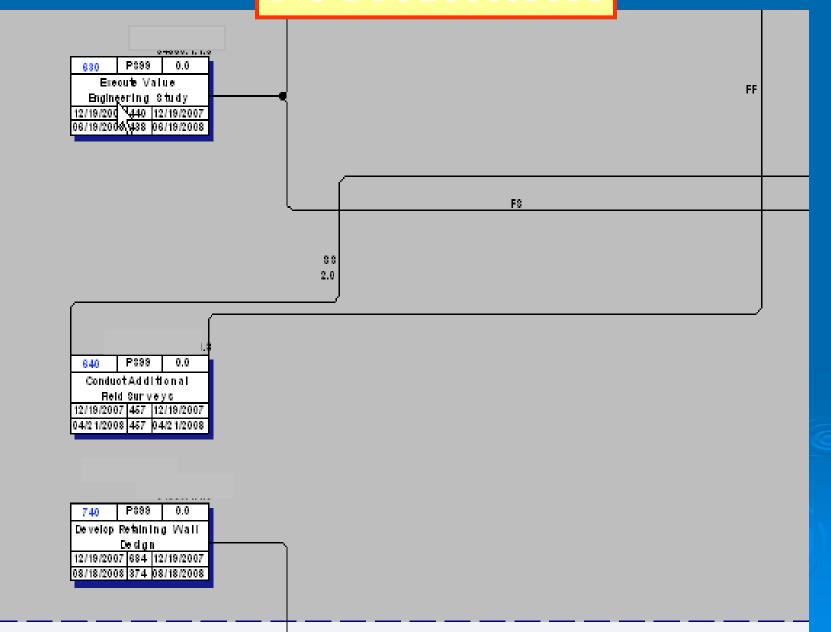
- When adjustments need to be made to your operative projects users need to be careful!!!
- Don't just assume that this activity is not needed so I will just break its relationship.
- Your first attempt to adjust your project structure should be to PS99 non-applicable activities.
- If you need to modify relationships always make sure you have a PREDECESSOR and SUCCESSOR.

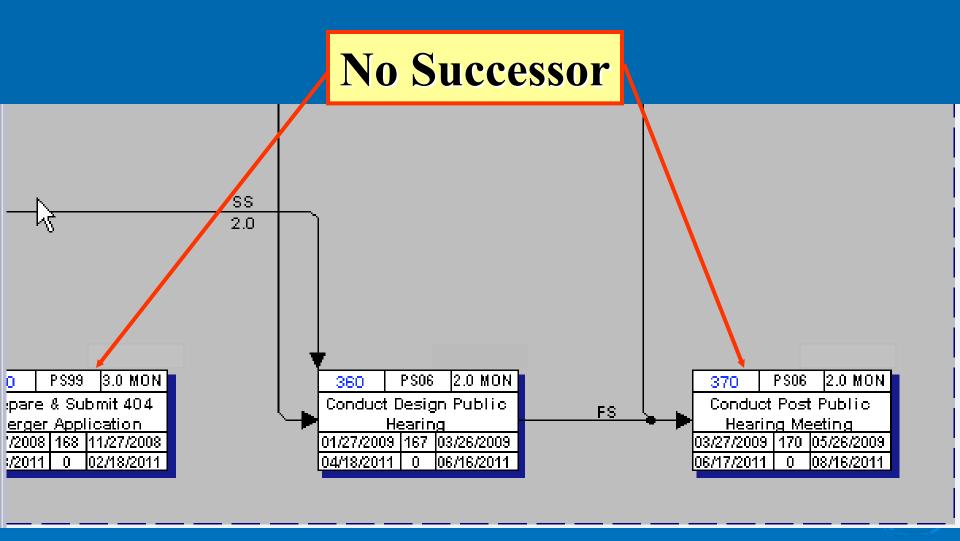
No Predecessors



Where there is <u>no</u> Predecessors, activities will always start on the date of project schedule.

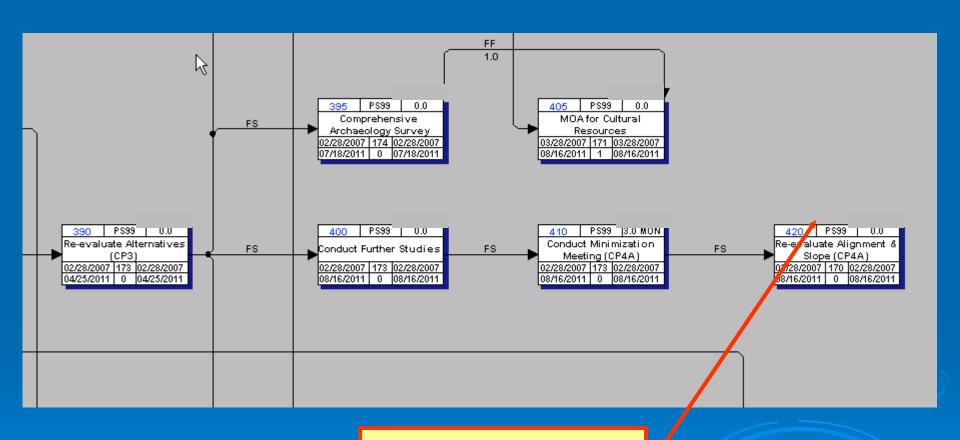
No Predecessors



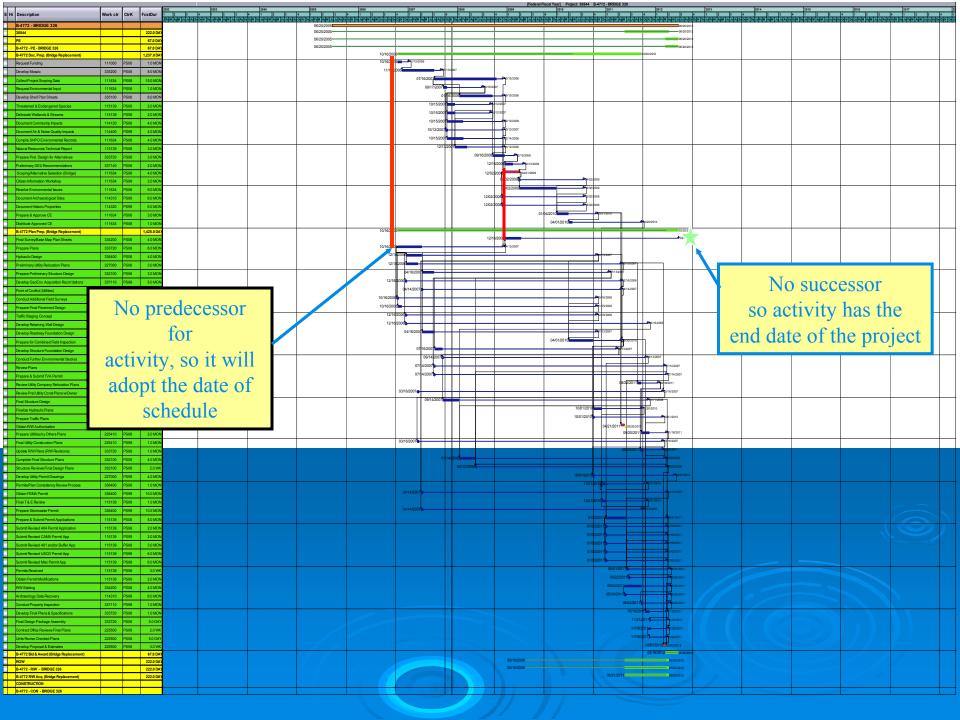


With <u>no</u> Successor an activity will end on the Last day of the Project schedule.

BROKEN PROJECT STRUCTURES



No Successor



SCHEDULING TYPES

BACKWARDS

Used to determine a project start date based on a proposed Let date

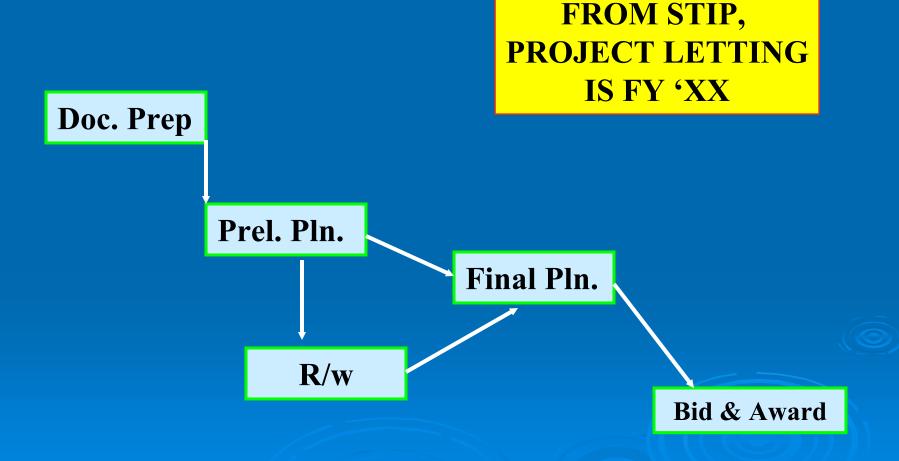
CURRENT DATE

Used once you have started a project and need to update the schedule and activities

FORWARD

Used to push a project in the future based on set start date, i.e. part "C" of a project will need to begin in October of 2012.

Backward scheduling

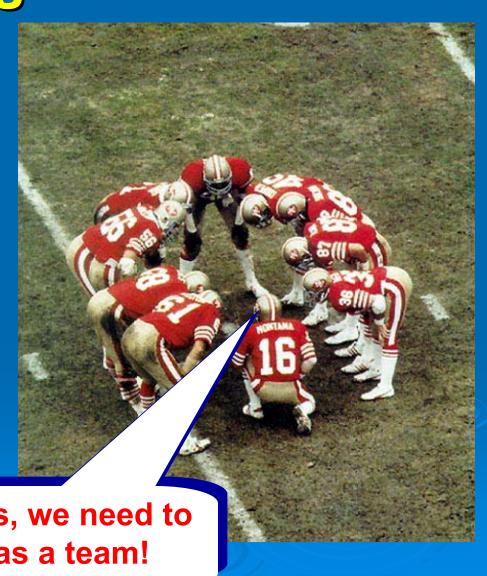


Backward scheduling **DETERMINES START DATE** Doc. Prep **FINISH** Prel. Pln. **DATE** Final Pln. R/W Bid & Award Today's date

Scheduling Guidelines

- > MUST Schedule entire **Project**
- Shift or not to shift (Schedule Change)
- Adjust durations
- Coordination a must!

Hey folks, we need to work as a team!

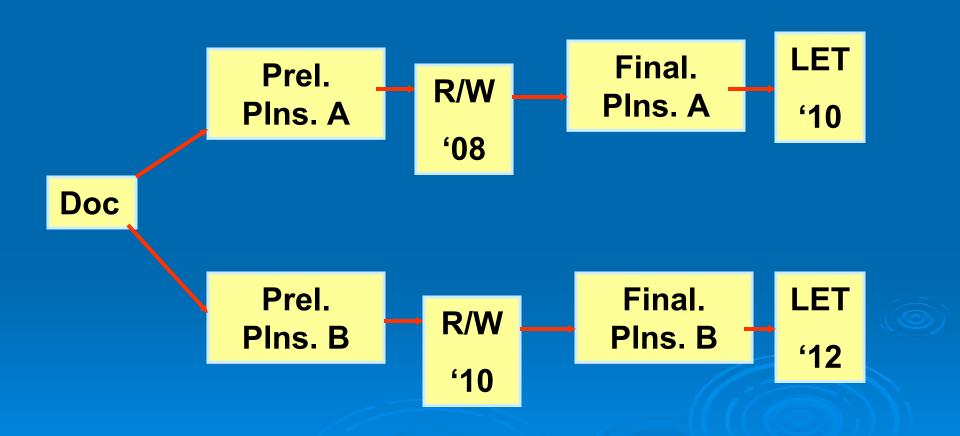


SCHEDULING Complex Projects

A Question from a Co-PM:

"I have a complex project with 2 breaks, A & B sections. Both sections have different R/W and Let dates. The planning document activity has 300 days of positive float. What is the appropriate way to schedule the planning document and Part B."

SCHEDULING Complex Projects



Document with excessive float

Part A

Prel. Plans Doc.(05/08)

2 yrs

Document prep.

Scheduling results for Doc. date

Early finish date (05/08)

Late finish date (05/10)

Part B

Prel. Plans Doc. (05/10)

constraint

Late finish date is influenced by part B

Document with excessive float

Part A

Prel. Plans Doc.(05/08)

2 yrs

Document prep.

Part B

Prel. Plans Doc. (05/10)

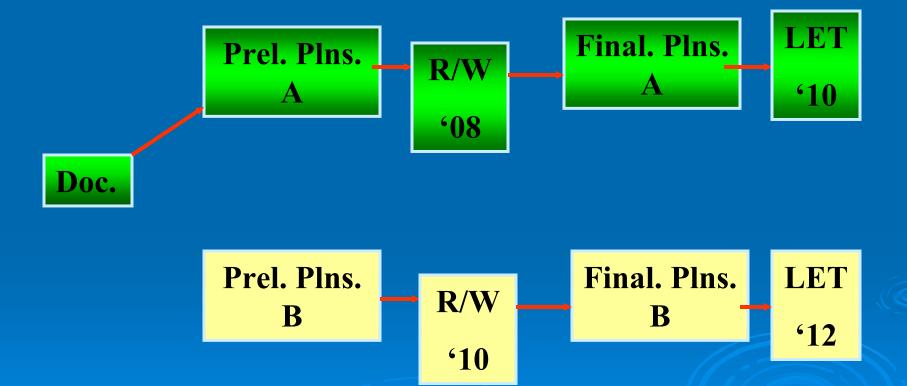
ద constraint

Scheduling results for Doc. date

Early finish date (05/08)

Late finish date will be based on float +/- that is contained with Part A only

Complex Projects Part B

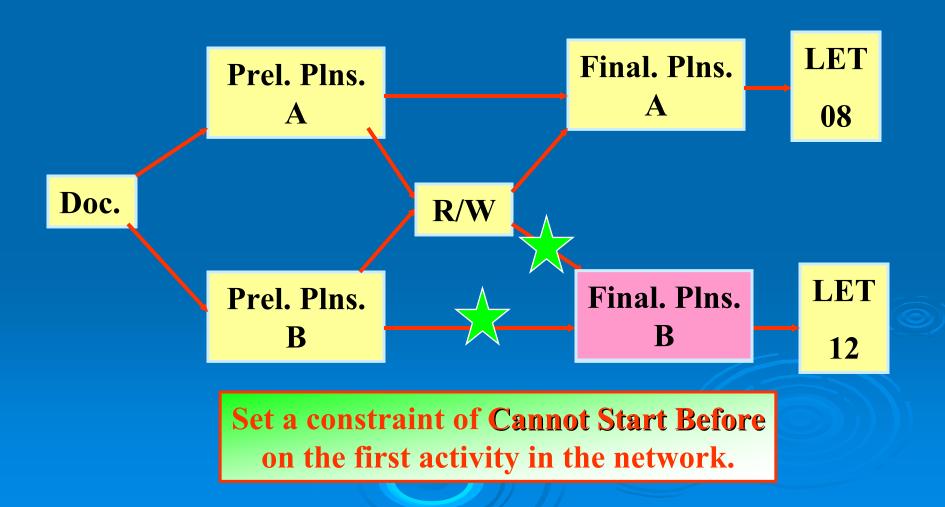


SCHEDULINGComplex Projects

A Question from a Co-PM:

"I have a complex project with 2 breaks, A & B sections. Both sections have the same R/W date but different let dates...Part B is later. The planning document activity has 300 days of positive float. What is the appropriate way to schedule the planning document and Part B."

Complex Projects 1 R/W & 2 Lets



HOW DO I SHIFT PART B?

There are basically two ways:

- If let date is known
 - BACKWARDS schedule part B
 - Set a CANNOT START BEFORE constraint on your first activity
- If let date is unknown or you need to delay the start date of a breakdown
 - Determine the start date
 - FORWARD schedule
 - Set a CANNOT START BEFORE constraint on your first activity

Note: Make sure you remove any relationships that can influence this network

PROJECTS THAT SHARE PLANNING DOCUMENTS

ASSUMPTION: You have a project that shares a planning document with another project. The project you are working on does not have a Doc Prep network. How do you schedule it?

- > This will require close coordination between Co-Project Managers to ensure that R/W and LET dates agree with STIP.
- User should backwards schedule project breakdowns and validate that the controlling activity in the Document Prep. network completion date will match the start date of the controlling activity in your project.
- You can then set a <u>CANNOT START BEFORE</u> date on your networks.

Sometimes you have to squeeze it up



PROJECT SCHEDULES



Sometimes you have to tighten up

Work with Program Dev structures and loop ana

Cancidar using a simula

Wiggle Room ?!

I'll show you wiggle room.

mps to provide more

es/durations with Activity

ocket decisions for other

on deliverables.

RESOURCE PLANNING

BARCHART PROGRAM

How to manage multiple activities on multiple projects

EXCEL BARCHART PROGRAM

- Reports on Milestones only
- Provides a quick scheduling overview of multiple project schedules
- Uses standard SAP R/3 transaction for creating input data
- > Allows users to customize to their specific needs
- This program could have future applications; i.e. construction schedule tracking, etc.

EXCEL BARCHART PROGRAM

TIP subno.	Desc.	Activity	ActIDate	SchdDate-F	Res Person	Usage
A-0009	Concurrence Point 1	0100		04/08/2008	Joseph Miller	M0060
A-0009	Receive Prel. Mapping (FTOP)	0230		11/07/2008	John Lansford	M0095
A-0009BB	Hydro Recommendations (FHYD)	0810		12/20/2010	John Lansford	M0280
A-0009BB	R/W Authorization	0830		01/20/2012	Majed Al-Ghandour	M0290
A-0009BB	Pre-Let Field Inspection (PLFI)	1370		09/14/2012	John Lansford	M0400
A-0009BB	Roadway Plans to Cont & Prop	1390		10/15/2012	John Lansford	M0420
A-0009BB	Letting	1570		01/21/2014	RGARRIS	M0435
A-0009C	Survey Request to Location (TLOC)	0 610		11/21/2008	DHENSON	M0215
A-0009C	Plan sheets from Location (FLOC)	0610		11/20/2009	DHENSON	M0220
A-0009C	Distribute plans	0620		07/20/2010	John Lansford	M0240
A-0009C	Final Design Field Inspection (FDFI)	0810		02/22/2012	John Lansford	M0260
A-0009C	Hydro Recommendations (FHYD)	0810		06/23/2011	John Lansford	M0280
A-0009C	R/W Authorization	0830		05/18/2012	Majed Al-Ghandour	M0290
A-0009CA	Pre-Let Field Inspection (PLFI)	1370		02/19/2013	John Lansford	M0400
A-0009CA	Roadway Plans to Cont & Prop	1390		03/20/2013	John Lansford	M0420
A-0009CC	Hydro Recommendations	1600		10/03/2012	Andrew T. Nottingham	M0280
A-0009CC	Distribute plans	1650		04/29/2013	John Lansford	M0240
A-0009CC	Final Field Inspection	1650		09/27/2013	John Lansford	M0400
A-0009CC	Roadway Plans to Cont & Prop	1670		10/28/2013	John Lansford	M0420
B-3019	Hydro Recommendations (FHYD)	0620	10/31/2006	10/20/2006	W. G. Cail	M0280
B-3019	Combined Field Inspection (CFI)	0740	02/09/2007	02/09/2007	Allison K. White	M0270
B-3019	R/W Authorization	0830	02/01/2007	03/16/2007	Majed Al-Ghandour	M0290
B-3019	Roadway Plans to Cont & Prop	1085		12/12/2007	RGARRIS	M0420
B-3019	Letting	1570	03/18/2008	03/18/2008	RGARRIS	M0435
B-3169	R/W Authorization	0830	08/18/2006	08/18/2006	Majed Al-Ghandour	M0290
B-3169	Roadway Plans to Cont & Prop	1050		10/23/2007	RGARRIS	M0420
B-3169	Letting	1570	01/15/2008	01/15/2008	RGARRIS	M0435

EXCEL BARCHART PROGRAM

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New version will include new milestones and new fields.

RESOURCE ADJUSTMENTS

Resource needs influence project schedules — Preferred method



Time is great healer, but it's a lousy beautician

RESOURCE ADJUSTMENTS

- Project STaRS will not adjust the schedule based on your available resources...but YOU can
- Project STaRS assumes you have all the resources you need and that you only have one project
- Project STaRS assumes that when an activity is completed the successor should begin
- Based on project specifics and your available resources, you should either reduce your activity duration to make it happen sooner or increase the duration to make it happen later.

RESOURCE ADJUSTMENTS

Predecessor has a Cannot Start Before constraint due to calendar restrictions.

Due July

Schedule indicates Document npleted in July.

Predecessor

How should you handle lack of resources?

FS

Prepare Doc. 6 Mon. However your Resources indicate it will be Sept.

CURRENT PRACTICE

Controlle stream active

Predecessor

2 mon.

+Float

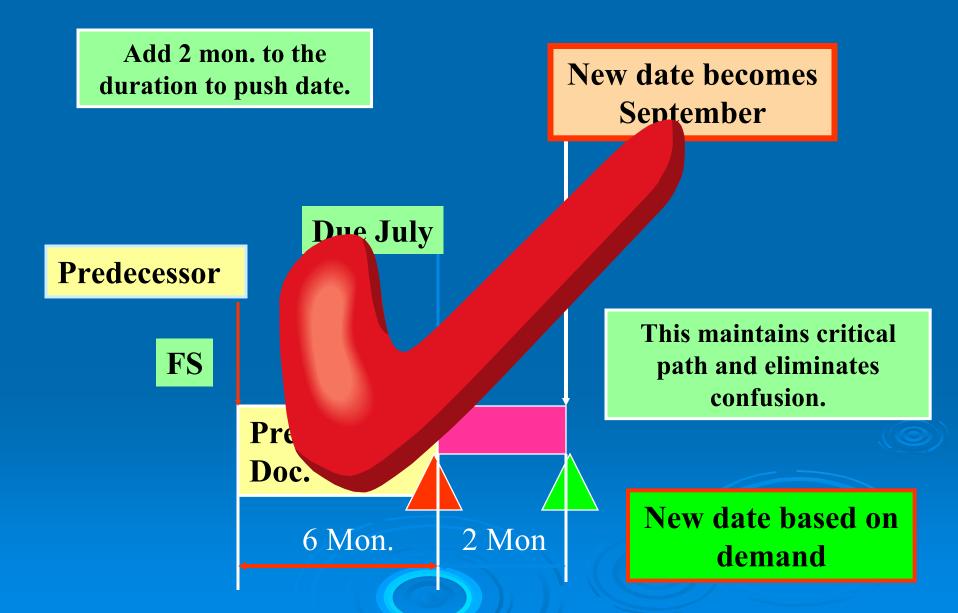
FS

repare Doc.

6 mon

st Finish On eptember

PREFERRED METHOD



DESIRED RESULTS

Calendar Constraint upstream activities

No float on predecessor and no constraint being used to control activity

Predecessor

FS

Prepare Doc.

8 mon

ONCE AGAIN...WHY SHOULD YOU DO THIS?

- Initial durations assume this is your <u>only</u> project and are only used as a guide
- Currently NO resource capacity is addressed
- Actual durations come from proper <u>time charges</u> (Time Sheet Assistant)
- Project reporting will compare planned deliverables based on actual deliverables

Results

8 Months

Planned duration based on resources



Elements required to complete.

Element 1

Element 2

Actual duration based on Activity Final confirmation/TECO'D

Actual Time Charges

= Actual Duration

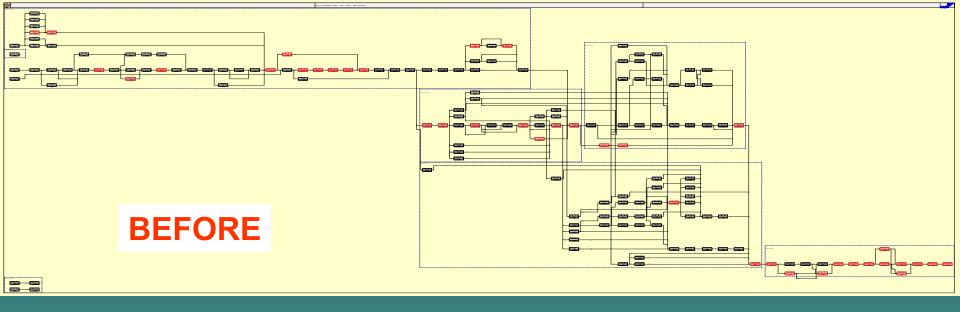
The Vext Generation of Standards

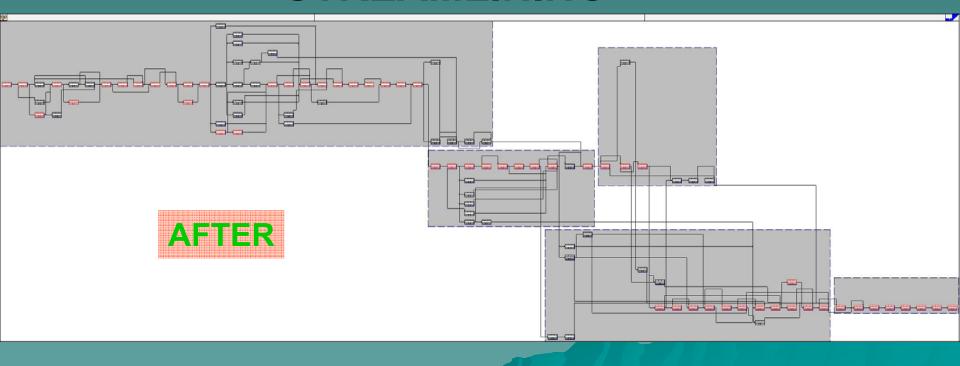
- Several months of development, testing and reviews
- Goal was to remove non-critical activities from the Standard Networks or activities that are normally PS99 (non-active)
- Goal was to create an easy way to add these to operative (existing) projects
- Allow flexibility in the customization of projects to fit actual situations

- We removed 46 Activities and 300 elements from the New Location process.
- We removed 45 Activities and 280 elements from the Widening process
- We removed 22 Activities and 180 elements from the Bridge Replacement process
- Bridge Process III is still being streamlined.



This equates to 31% reduction in activities R a 27% reduction in elements.





 Two Non-Standard Libraries of activities were created

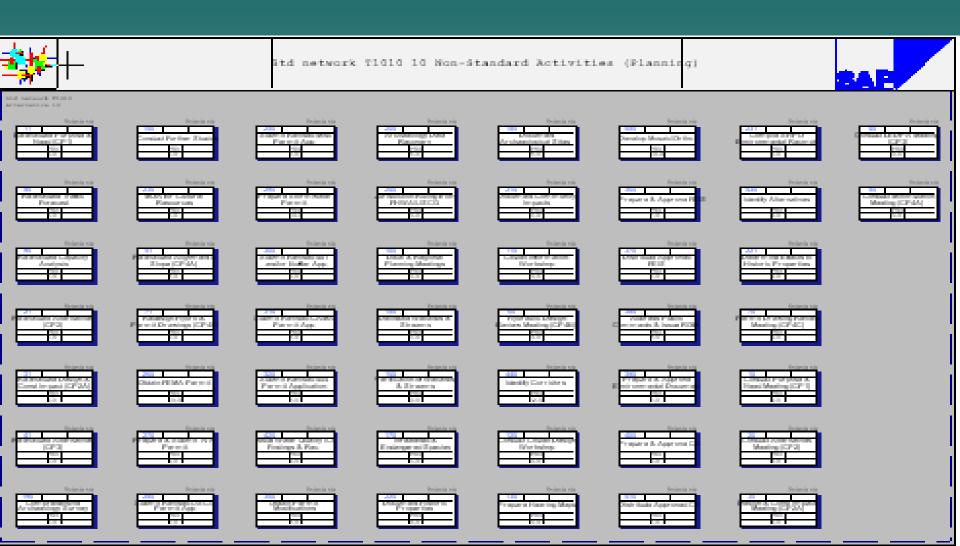
Non-Standard
Activities (PLANNING)

Non-Standard Activities (DESIGN)

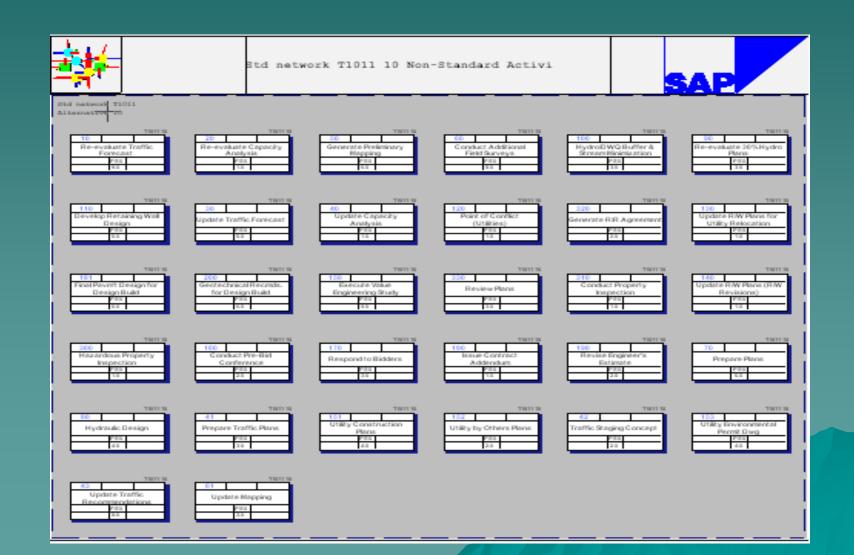
They are not dependant on a process



Non-Standard Activities (PLANNING)



Non-Standard Activities (DESIGN)



NON-STANDARD (PLANNING)

T1010	10 0010	A0 100 Conduct Purpose & Need Meeting (CP1)	3.0 MON	0.0 H	111000
T1010	10 0011	A0 110 Re-evaluate Purpose & Need (CP1)	3.0 MON	0.0 H	111000
T1010	10 0020	A0 190 Conduct Alternatives Meeting (CP2)	3.0 MON	0.0 H	111000
T1010	10 0021	A0200 Re-evaluate Alternatives (CP2)	4.0 MON	0.0 H	111000
T1010	10 0030	A0350 Design & Const Impact Meeting (CP2A)	3.0 MON	0.0 H	111000
T1010	10 0031	A0360 Re-evaluate Design & Const Impact (CP2A)	3.0 MON	0.0 H	111000
T1010	10 0040	A0130 Conduct LEDPA Meeting (CP3)	3.0 MON	0.0 H	111000
T1010	10 0041	A0 <mark>1</mark> 40 Re-evaluate Alternatives (CP3)	4.0 MON	0.0 H	111000
T1010	10 0050	A0460 Conduct Minimization Meeting (CP4A)	3.0 MON	0.0 H	111000
T1010	10 0051	A0 <mark>1</mark> 70 Re-evaluate Alignment & Slope (CP4A)	2.0 MON	0.0 H	111000
T1010	10 0060	A0 700 Hydraulic Design Review Meeting (CP4B)	3.0 MON	0.0 H	336400
T1010	10 0070	A1230 Permit Drawing Review Meeting (CP4C)	3.0 MON	0.0 H	336400
T1010	10 0071	A1240 Redesign Hydro & Permit Drawings (CP4C)	3.0 MON	0.0 H	336400
T1010	10 0080	A1945 Re-evaluate Traffic Forecast	9.0 MON	0.0 H	123000
T1010	10 0090	A1940 Re-evaluate Capacity Analysis	1.0 MON	0.0 H	321120
T1010	10 0100	A0090 Local & Regional Planning Meetings	3.0 WK	0.0 H	111000
T1010	10 0110	A0170 Citizen Information Workshop	3.0 MON	0.0 H	111000
T1010	10 0120	A0520 Conduct Citizen Design Workshop	3.0 MON	0.0 H	114110
T1010	10 0130	A0345 Prepare Hearing Maps	3.0 MON	0.0 H	333000
T1010	10 0140	A0 150 Conduct Further Studies	4.0 MON	0.0 H	111000
T1010	10 0150	A0260 Delineate Wetlands & Streams	4.0 MON	0.0 H	115100
T1010	10 0160	A0325 Verification of Wetlands & Streams	3.0 MON	0.0 H	115100
T1010	10 0170	A0270 Threatened & Endangered Species	4.0 MON	0.0 H	115100
T1010	10 0180	A0280 Document Archaeological Sites	6.0 MON	0.0 H	114310
T1010	10 0190	A0-145 Comprehensive Archaeology Survey	6.0 MON	0.0 H	114310
T1010	10 0200	A1-115 Archaeology Data Recovery	6.0 MON	0.0 H	114310
T1010	10 0210	A0300 Document Community Impacts	4.0 MON	0.0 H	114120
T1010	10 0220	A0290 Document Historic Properties	9.0 MON	0.0 H	114320
T1010	10 0221	A0295 Determine Effects to Historic Properties	3.0 MON	0.0 H	114320
T1010	10 0230	A0-155 MOA for Cultural Resources	4.0 MON	0.0 H	114320
T1010	10 0231	A0 105 Compile SHPO Environmental Recmds	4.0 MON	0.0 H	111500
T1010	10 0240	A0210 Jurisdiction Ruling from FHWA/USCG	3.0 MON	0.0 H	111000

NON-Standard Libraries How to use them

- All activities are now PS06
- Determine where this activity needs to be added in your project.
- Assign this activity a new number. (Use # 1 to 9 as the last digit 231-239) this will allow any user to easily determ
- Select the Predecessor & and the Successor and enter.
- New activity will automatically attach itself and populate all required fields.
- Delete non-applicable activities

DEMO

HOW TO USE NON-STANDARD LIBRARY

How to use them...

 Open the project select the new activity and 3 things need to be done

- (1) Lower level assign the activity and elements
- (2) Enter in the proposed duration for this activity
- (3) Delete any non-applicable elements
- You will notice that no work effort has been assigned (DON'T WORRY)
- You work effort will be tracked using the TIME SHEET ASSISTANT

How to use them...

- These Libraries are not limited to a process
- Users are not controlled by a process type
- Any activity from a NON-Standard Library can be used on any type of project
- Creates flexibility in operative projects
- Will allow a more true and clearer representation of the actual events that can happen
- Reduces clutter and confusion
- **♦ WARNING !!!!**
 - <u>DO NOT</u> attempt to use this process with any other type of NETWORK TYPES

Improper use of Networks will get you every time



Ron Allen has approved one Alcoholic drink after class



PROCESS CHANGES

Non-Merger Projects

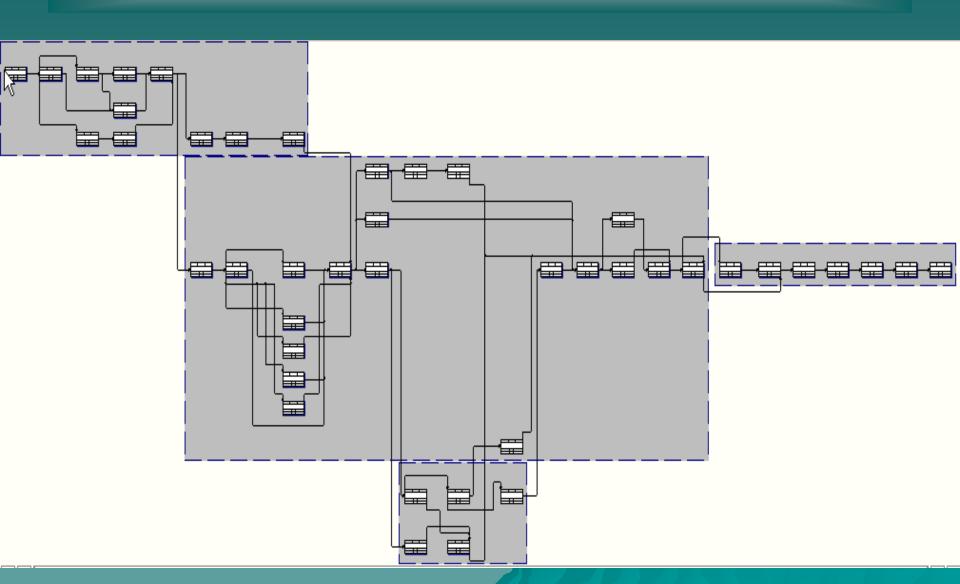
Early Mapping Requests

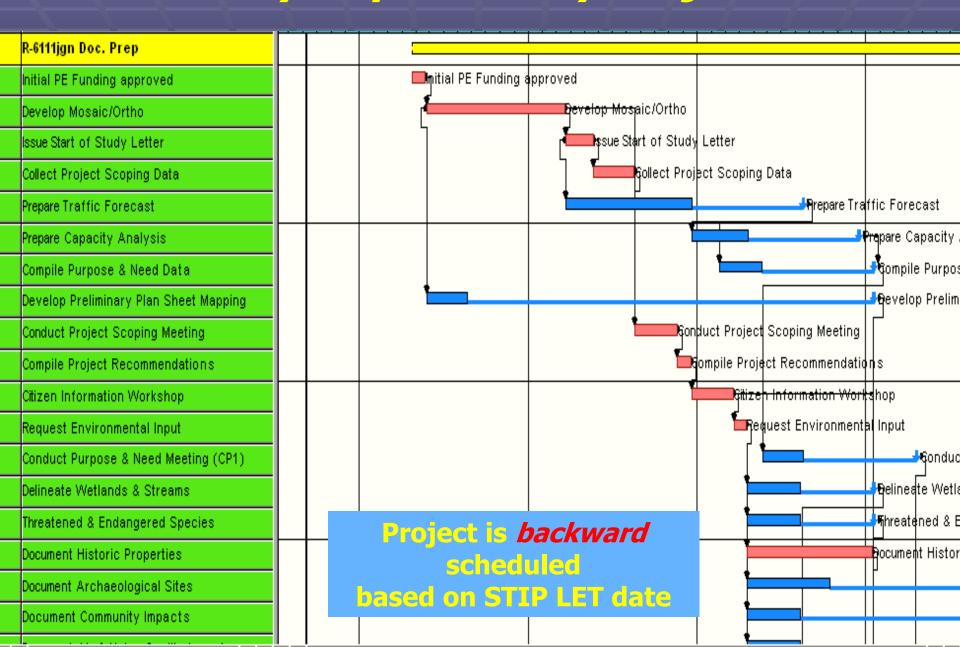
Future New Bridge Process

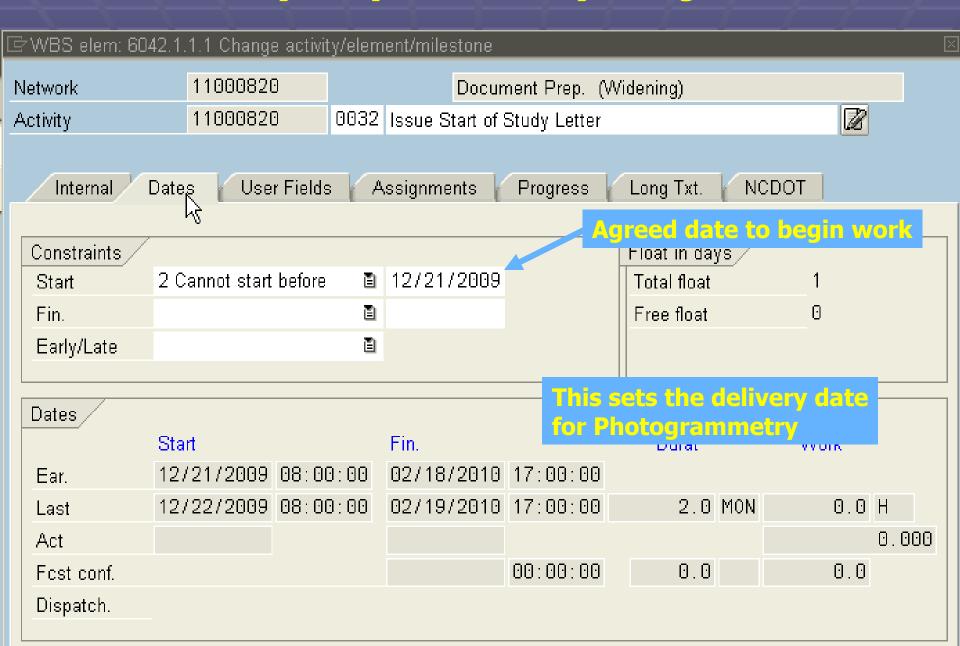
Non-Merger projects

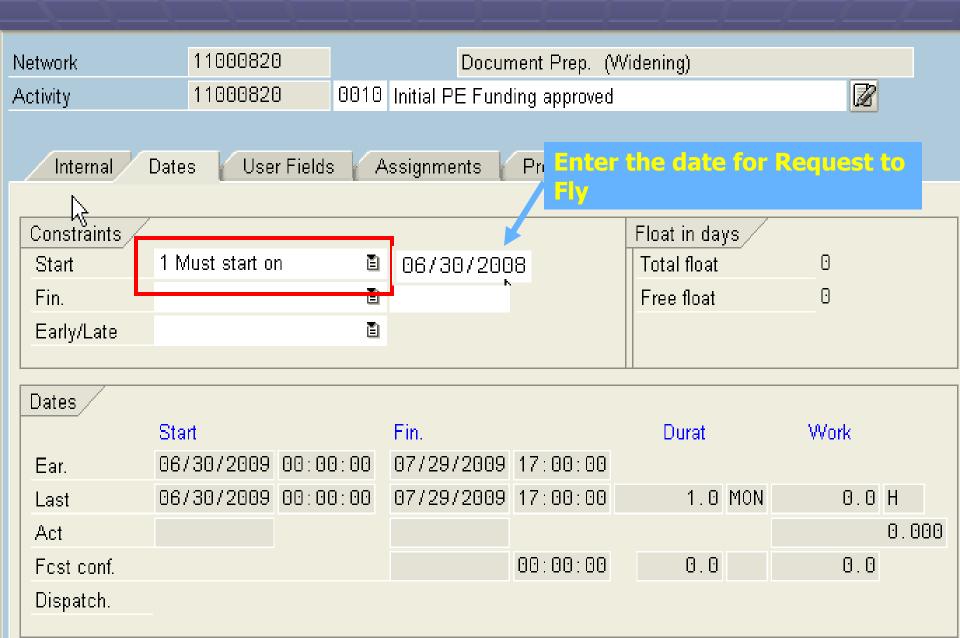
- ◆ The Minor Improvement network has been changed to become more flexible.
- ◆ Its now called a Document Prep. (Non-Merger) etc;
- This network is intended, along with the Non-Standard libraries, for (PLANNING & DESGN) to allow you the user to create a project for your purpose.
- By using the core Non-Merger networks and the available libraries you can create a Rest Area, Guardrail, Rehab. Etc;
- Work with your Co_Project Managers and Program Development to create your project.

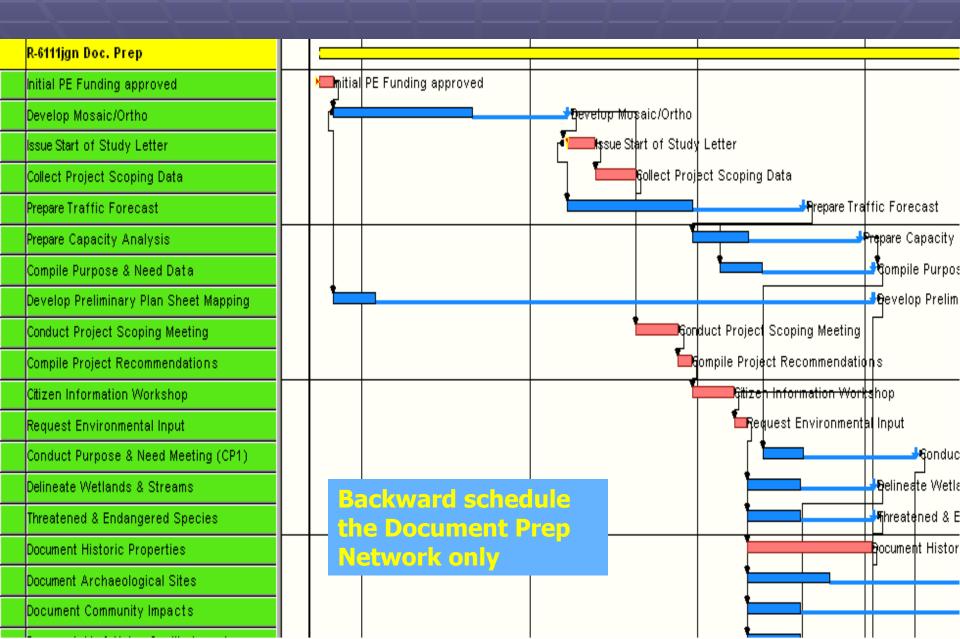
Non-Merger projects











- Then entire Project should be Backward scheduled
- Contact Program Development to transfer Forecast to Basic
- Once the Basic has been updated remove all other constraints from the Forecast schedule such as Document, R/W and LET as required by policy
- Once Photogrammetry receives request to fly they will confirm their element and set a FORECAST FINISH date based on the delivery date you have requested
- This will also be used on (Develop Preliminary Plan sheet mapping) activity

This will remove the influence of Photo's work from your schedule

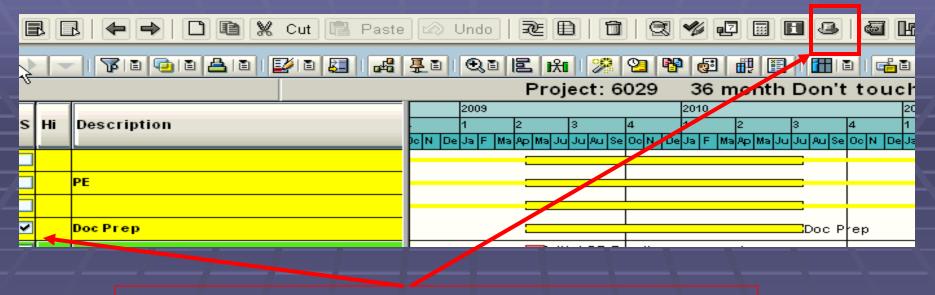
Caution !!!

- When setting up schedule for PE Funding to allow Photogrammetry to begin mapping
- Remember !!!!
- The TOTAL time from the PE Funding request to R/W can not exceed 10 years
- This is a mandate from FHWA
- This timeframe may be longer once project gets started due to delays

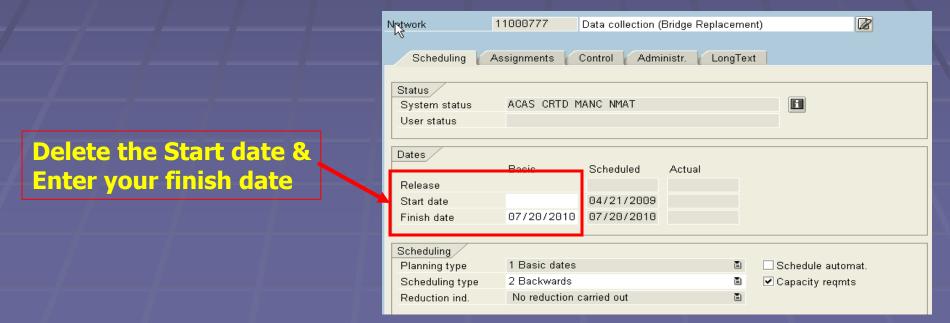
Scheduling Concurrent Field
Scoping Meetings

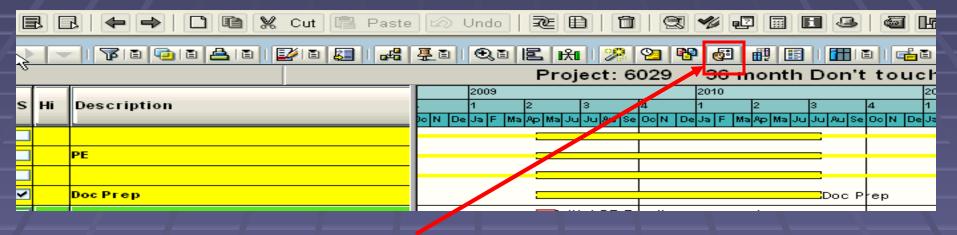
Note: This Process has not been approved or finalized as of 06/25/2208





Select the Network Header and the ICON that looks Like a Hat





Select your Planning Board Options ICON, set the scheduling type to **BACKWARDS** & schedule the network

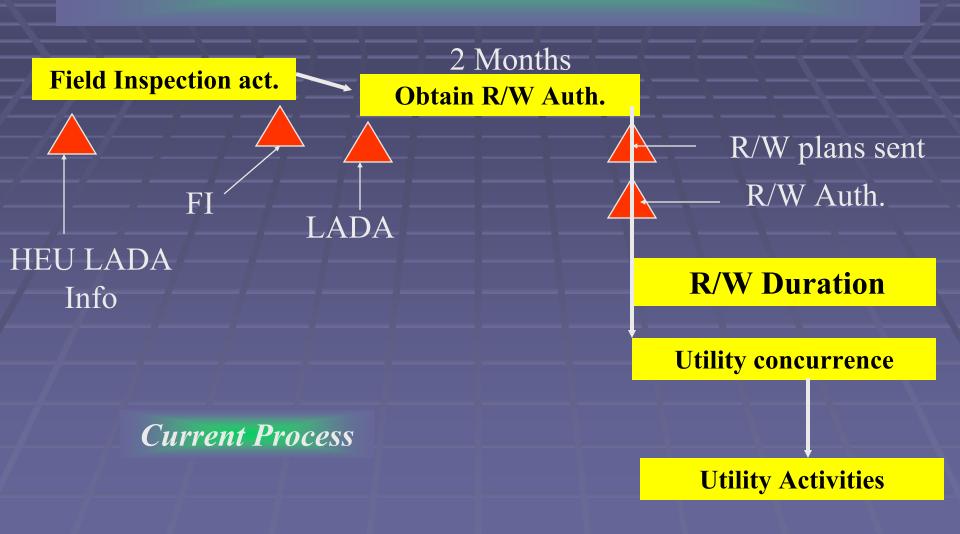
This will set the start date of the project for Initial PE Funding approved

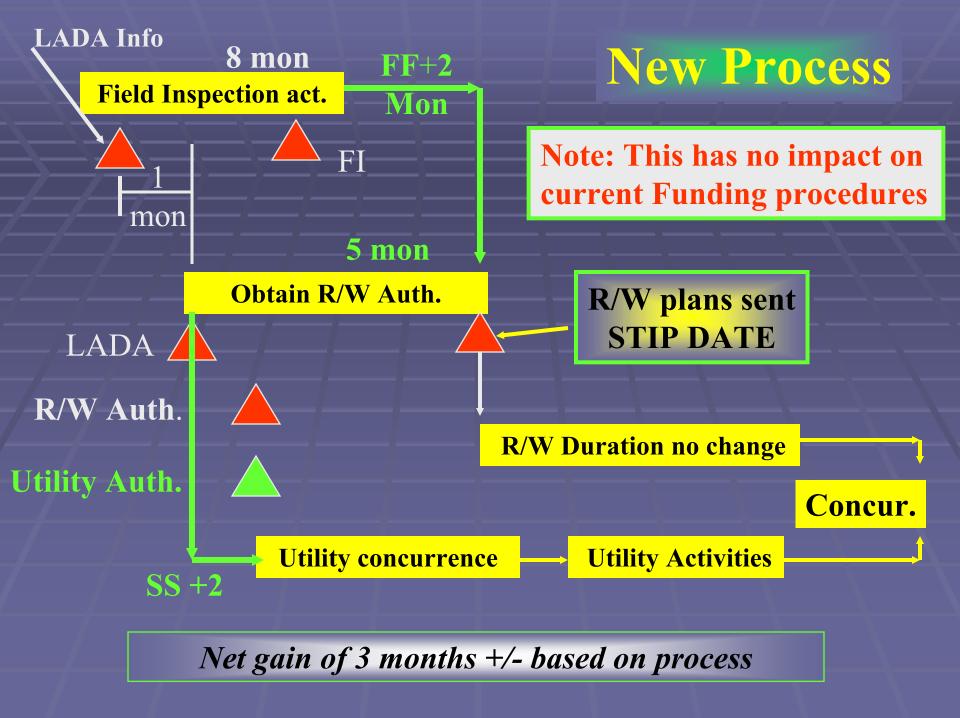
- Once the project has been schedule place a constraint of Must Start On on the activity (Initial PE Funding approved)
- Contact Program Development to transfer Forecast to Basic
- Once this has been transferred, remove constraint from the (FSM) activity

- At the (FSM) or through Divisions recommendations, it will be determined the type of bridge process that will be used (36 or 24 month)
- Once that has been set Co-Project Manager will contact Program Development to add the appropriate network
- This network will have no relationship to the Data Collection network

- Once the network has been added the Co-Project should schedule the project based on the STIP
- Apply normal constraints as needed to establish the baseline schedule
- Place a Cannot Start Before constraint on the first activity and request this schedule be transferred to the Basic
- Upon notification that it has been transferred, remove all constraints as required by policy

R/W Authorization



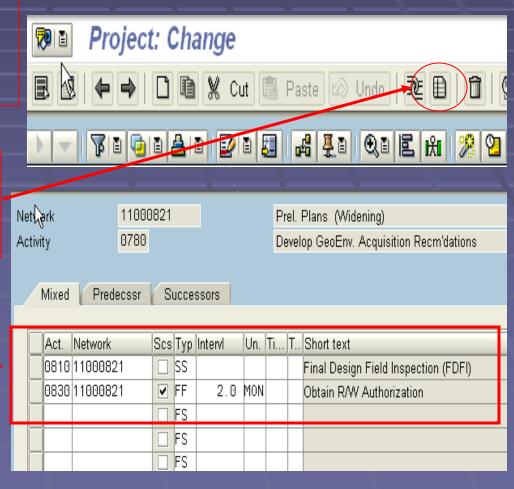


R/W/Utility Authorization Other changes required

You will need to modify the (Develop GeoEnv. Acquisition Recommendations) activity

Use the Planning board to adjust Use the EDIT Relationship Icon

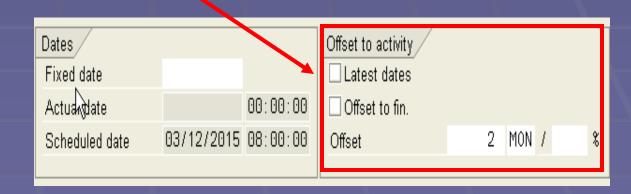
Modify to a FF+2 mon



R/W/Utility Authorization Other changes required

Attach standard Milestone M0675 to the Obtain R/W/Utility Authorization activity

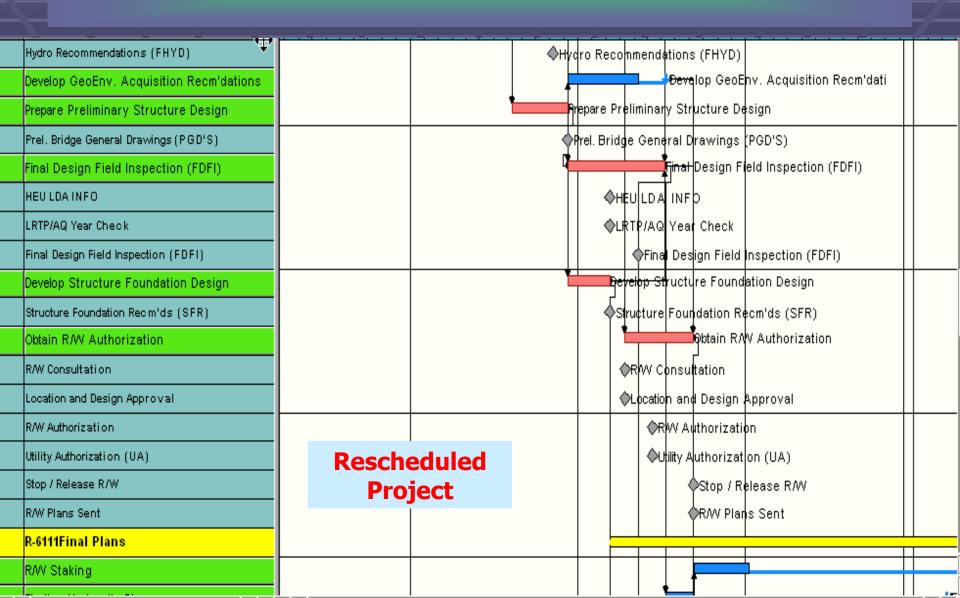
Modify milestone M0290 R/W Authorization from the end of activity to the beginning + 2 mon



R/W Authorization

- The decision to incorporate this change should be a joint effort
- Consult the UCU and PS Utilities to determine if your existing operative project will need additional time for utilities
- If assistance is needed to make this change email TIPSTaRS help

R/W Authorization



NEW PROCESS CHANGES

■ IMPORTANT - "AFFECTS EVERYONE"

Request to Fly projects early impacts Program
 Development, PDEA, RDU and Photogrammetry

Standards will be updated

Existing operative projects updated ?

MILESTONES

HOW TO MANAGE

ACTUALS vs. FIXED

MILESTONES

Use CN13 to view a list

 Use TIPSTaRSHelp to request new milestones

Milestones will be used to track projects & metrics

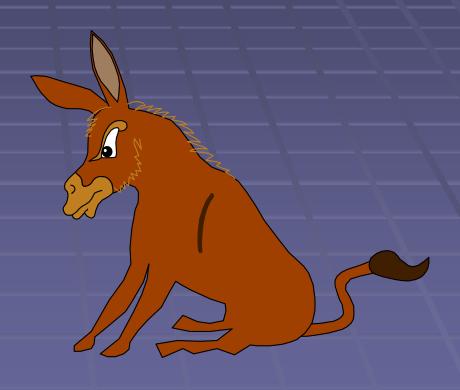
When do you use Fixed dates and Actual dates?

What happens when you use just a Fixed date?



MILESTONES ARE "STUPID"

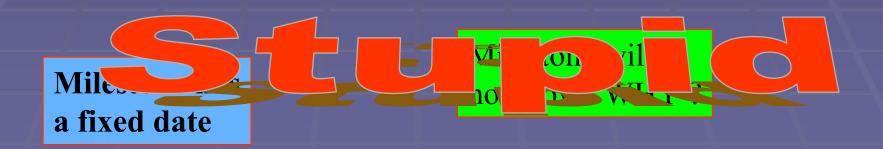
- When you use a Fixed date on a milestone it becomes static
- The activity can move but the milestone can't
- Why? Because you told it not to...They are stupid!!!



MILESTONES

"Have you ever seen the message that the milestone is no longer on the activity?....Well, here is why."

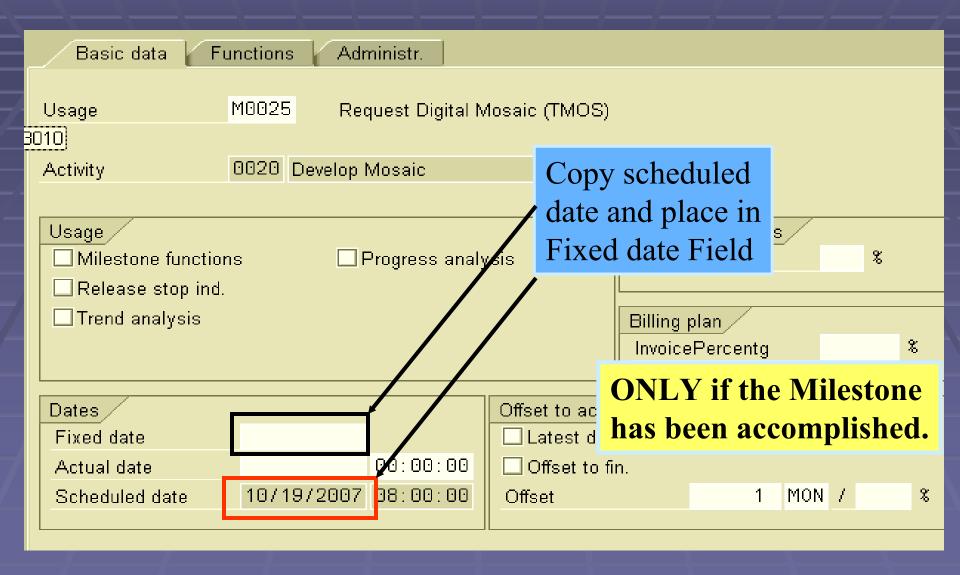




MILESTONES

- Only use an Actual Date once the milestone has been reached.
- Use Fixed Dates on milestones as a record of planned vs. actual
- Example :
 - (1) Prepare Plans is the activity and FLOC is the milestone at the beginning of the activity
 - (2) You have received plan sheets (survey info) so then you apply an actual date to the milestone
 - (3) You also will copy your scheduled date and place it in the fixed date field as a record of scheduled verses actual

MILESTONES (Fixed dates)



MILESTONES

- If an activity has a milestone at the end of the activity, the same rules apply.
- This develops standardization and eliminates confusion.
- Never just confirm an activity and set the milestone date from the confirmation screen
- ALWAYS PLACE ACTUAL AND FIXED DATES ON ALL MILESTONES ONCE THEY HAVE BEEN ACHIEVED.





FORECAST AGING REPORT

90 Day Aging Report

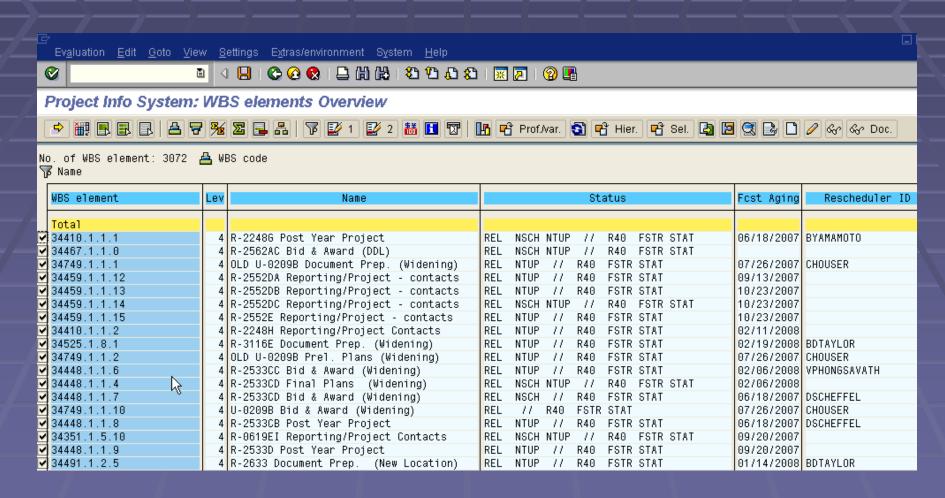
Overall Requirement

 Needed a Standard R/3 Report that Shows Which Networks Have Not Been Rescheduled in Over 90 Days

Solution

- a) On the Parent Level 4 WBS Element of each network:
 - Capture the Most Recent Reschedule Date
 - Capture the Scheduler's user ID
 - User Defined Field Tab
 - Use CJ2B for Schedule Changes
 - b) Use a standard SAP report (CNS43), to list Level 4 WBS Elements where the Reschedule Date is over 90 days in the past.

FCST AGING REPORT (CNS43)



FCST AGING REPORT Directions

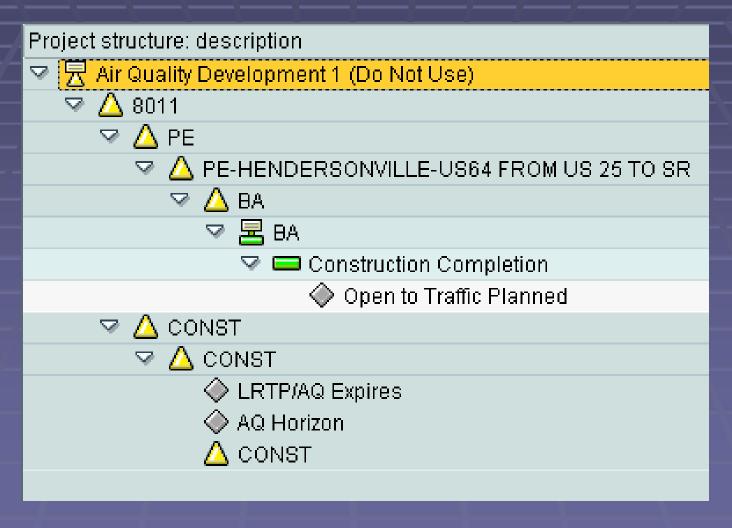
- Use Transaction CNS43
- Use Variant /ZFORECAST
- Change the Date on the Dynamic Selection to 3 Months From Today.
- Execute
- Use ZPSR24 to Narrow Selection to Your Projects

OPEN TO TRAFFIC INDICATOR

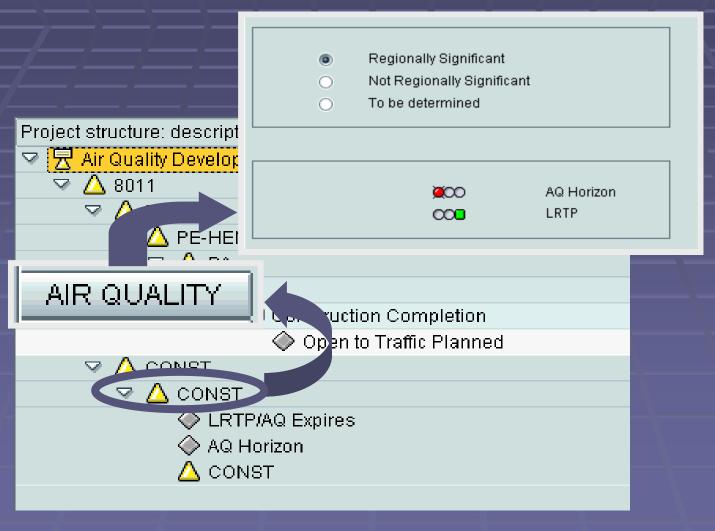
Air Quality Indicators

- For "Regionally Significant" Projects
- Functionality is Not Currently Being Used
- Can Alert Managers When LRTP Dates and Air Quality Horizon Dates are at Risk
- Will Allow Reporting to Show When Projects are at Risk – CNS43.

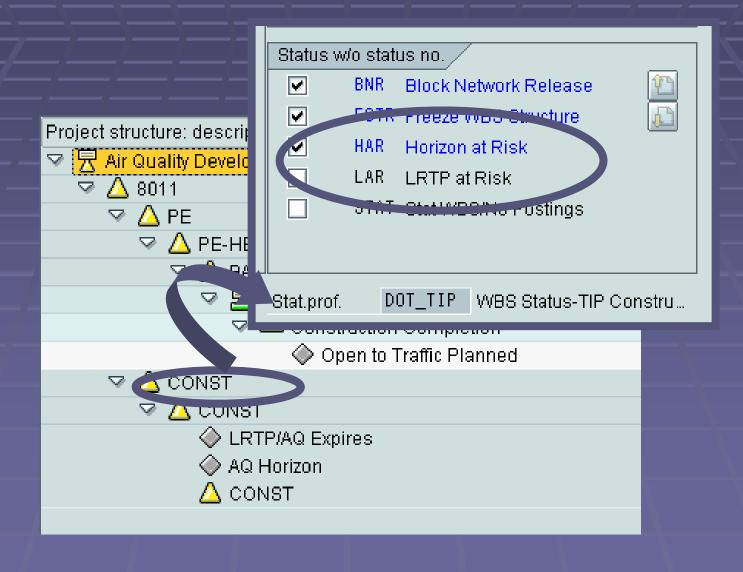
Master Data in Regionally Significant Projects - 1

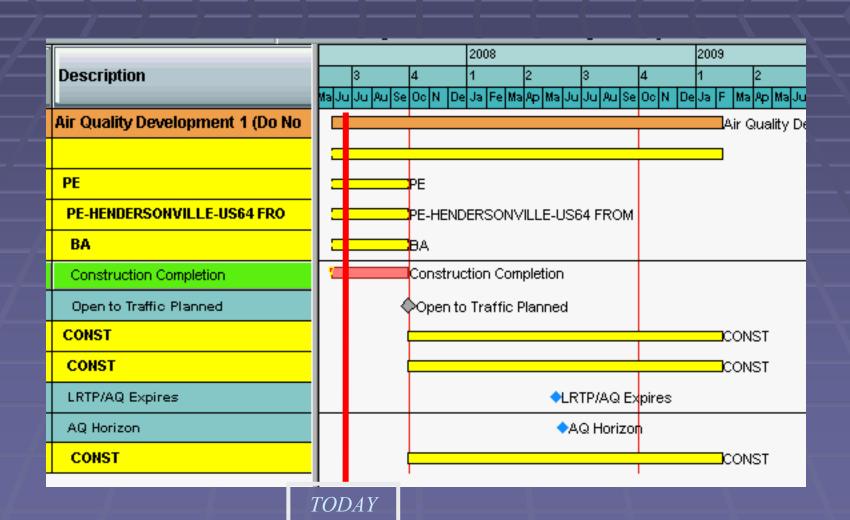


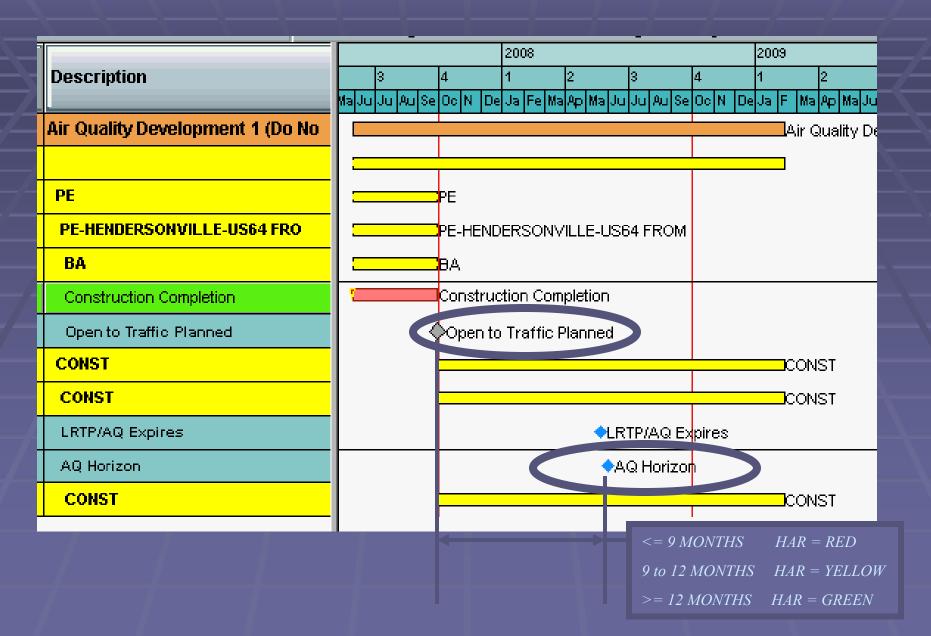
Master Data in Regionally Significant Projects - 2

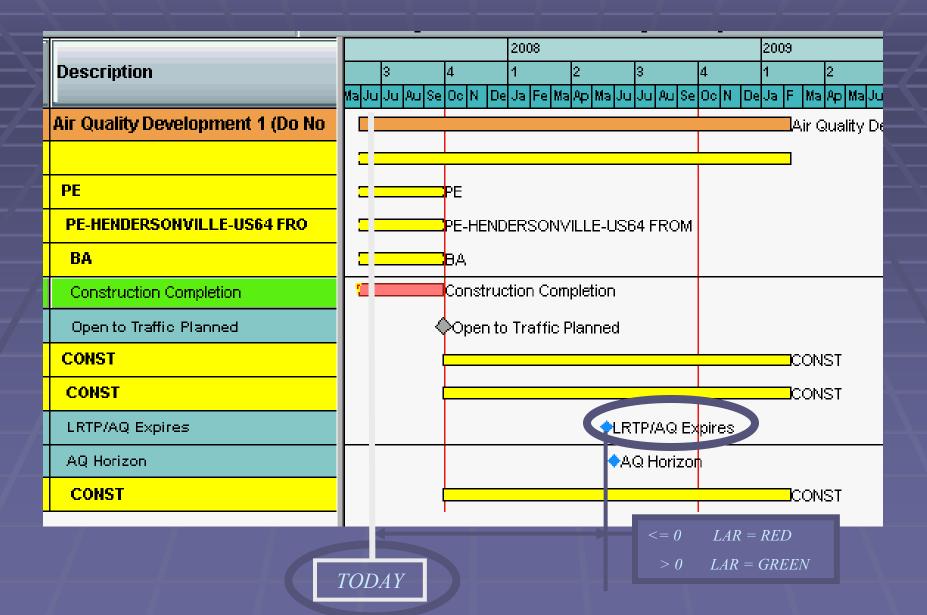


User Statuses HAR & LAR









Transaction ZPSB32

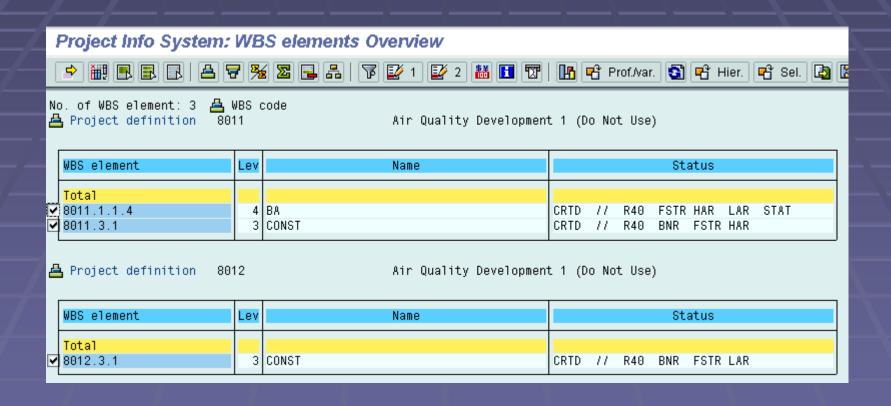
- Processes a range of projects
- Regionally Significant Construction WBS Elements are processed
- HAR shown as GREEN/YELLOW/RED on WBSE
- LAR set to GREEN/RED on WBSE
- HAR User Status set to ON/OFF
- LAR User Status set to ON/OFF

HAR/LAR Report - 1

Report CNS43

- Reports on WBS Elements with HAR and/or LAR status
- Report variant may include
 - range of projects
 - Status Based selection profile
 - Report layout.

HAR/LAR Report - 2





If this guy can be inventive so can we



If they only knew where this rake came from !!!





DELIVERABLE TRACKING

A NEW CONCEPT

Tracking Deliverables vs. Tasks

How do we go from a Task Tracking system to a Deliverable Tracking system?

Deliverable Tracking

Prepare & Approve Environmental Document	PDEA Project Development	
	PDEA Project Development	
Write draft 4(f) statement	PDEA Project Development	
Review draft document and revise	GEO GeoEnvironmental	
Review draft document and revise	GEO Regional Offices	
Review draft document and revise	Readway Design	
Any unit not having a specific element that will review rings		
document would charge to	the Activity.	
Review draft document and revise	Division Resident Engineer	
Review draft document and revise	TEB CM-Central Region	
Review draft document and revise	PDEA HEU Archaeology Group	
Review draπ document and revise	R/VV Central Office	
Review draft document and revise	SD Design 1	
Review draft document and revise	PDEA HEU Hist Architecture Group	
Review draft document and revise	Hydraulics Project Design	
Review draft document and revise	PDEA Project Development	
Review draπ document and revise	PDEA HEU Community Studies	
Review draft document and revise	PDEA HEU Noise/Air Quality Group	
Review draft document and revise	PS Utilities Section	
Review draft document and revise	PDEA NEU Project Management	
Submit document to FHWA	PDEA Project Development	
Revise draft document with FHWA comments	PDEA Project Development	
Document approval	PDEA Project Development	

Deliverable Tracking

Pre-Let Field Inspection (PLFI)

 $L_{\mathbb{R}}$

Revieu pavement derign
Prepare for field inspection (PLFI)
Prepare for field inspection (PLFI)
Prepare for field inspection (PLFI)
Revieu plans for constructability
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Review plans for constructability

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Contains 60 Objects

Conduct field inspection meeting Conduct field inspection meeting Conduct field inspection meeting. Conduct field importion meeting Conduct field inspection meeting Conduct field inspection meeting Conduct field impaction meeting Conduct field inroaction meeting Conduct field inspection meeting. Conduct field importion meeting Conduct field inroaction meeting. Conduct field inspection meeting Conduct field impaction meeting Conduct field inspection meeting Roviou onvironmental Green Sheets Review environmental Green Sheetr Raviau anvironmantal Graan Shaatr

Reviewenvironmental Green Sheetr Reviewenvironmental Green Sheetr Reviewenvironmental Green Sheetr Reviewenvironmental Green Sheetr Reviewenvironmental Green Sheetr Coordinate barrier control Coordinate barrier control

Coordinate barrier control
Review Traffic Control plans
Review Traffic Control plans
Review Traffic Control plans
Derign erozion control plans
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Rievize landscaping/zite plans
Rievize landscaping/zite plans

Proparo PLFI responso
Incorporate revisions from Division
Incorporate revisions from Division
Incorporate revisions from Division
Incorporate revisions from Division
Incorporate revisions from Division

Update CIA

Verification of RAW

Roadway Design

PMU Derign
Divirion Construction Engineer
Roadway Derign
GEO GeoEnvironmental
Hydraulier Project Derign
Construction Unit
GEORegional Officer
REU Soil & Water Engineering
REU Field Operations
BYW Relocation
PS Utilitier Section
Divirion Construction Engineer
Work Zone Traffic Control Unit
Utilitier Coordination Unit

TEB Signing
SD Derign 1
B/W Negotiations
Hydraulics Project Derign
SD Derign 1
TEB Signals & Geometrics

Roadway Derign PS Utilitier Section Divirion Rerident Engineer Utilitier Coordination Unit TEB Signing

Work Zone Traffic Control Unit
R/W Negotiations
REU Soil & Water Engineering
REU Field Operations
Construction Unit
R/W Felocation
GEO Regional Offices
PDEA NEU ICI/On-Site Mitigation

Divirion Construction Engineer
PDEA NEU Engineering
Hydraulies Project Design
Divirion Construction Engineer
REU Soil & Water Engineering
REU Field Operations
Construction Unit

PDEA NEU ICI/On-Site Mitigation
Divirion Revident Engineer
PDEA MEU Engineering
TEB Signing
Roadway Devign
Construction Unit
SD Devign 1
Roadway Devign
REU Soil & Water Engineering

REU Field Operations
REU Dorign
L&S Area Engineers
Division Construction Engineer
Roadride Environment Unit
Roadway Design
PDEA NEU ICI/On-Site Mitigation
GEO Regional Officer
PDEA MEU Engineering
PDEA HEU Community Studier

	Pre-Let Field Inspection (PLFI)	Roadway Design
	Review pavement design	PMII Design
	Prepare for field inspection (PLFI)	Division Construction Engineer
	Prepare for field inspection (PLFI)	Roadway Design
₩ <mark>-</mark>	Heuley plans for constructability	Lik U Geok nurronmental
	Treview plans for constructability	Hudradies Project Design
	Review plans for constructability	Construction Unit
_	Review plans for constructability	GEO Regional Offices
	Review plans for constructability	REU Soli & Water Engineering
	Heview plans for constructability	REU Field Uperations
	Fleview plans for constructability	PIW Pelocation
_	Review plans for constructability	PS Unillies Section
	Review plans for constructability	Division Construction Engineer
	Review plans for constructability	Division Resident Engineer
	Heulew plans for constructability	Work Zone Trakke Control Unit
_	Preview plans for constructability	Utilities Coordination Unit
	Review plans for constructability	TFR Signing
_	Review plans for constructability	SD Design 1
	Review plans for constructability	Filw Negotiations
_	Conduct held inspection meeting	Hydraulics Project Design
	Conduct field inspection meeting	SB Besign 1
	Conduct Reid inspection meeting	TER Signals is Isenmetrics
	Conduct field inspection meeting	Roadway Design
_	Conduct field inspection meeting	PS Utilities Section
	Conduct field inspection meeting	Division Resident Engineer
	Conduct field inspection meeting	Utilities Coordination Unit
	Conduct field inspection meeting	TEB Signing
•	Conduct field inspection meeting	Work Zone Traffic Control Unit
_	Conduct field inspection meeting	Fil'w Megotiations
-	Conduct Held inspection meeting	HEU SOII & Water Engineering
	Conduct field inspection meeting	DEU Field Operations
	Conduct field inspection meeting	Construction Unit
	Conduct field inspection meeting	R/h/ Relocation
	Conduct field inspection meeting	GEO Degional Offices
	L obduct Held inspection meeting	PT IF B IVETTI IN IN-SITE DURINGSHON
	Conduct field inspection meeting	Division Construction Engineer
	Conduct field inspection meeting	FDEA NEU Engineering

	Pre-Let Field Inspection (PLFI)	Roadway Design		
- Payion of	wironmental Green Sheets	Hydraulies Project Design		
Heview er	vironmental Green Sheets	Division Construction Engineer		
Review environmental Green Sheets		REU Soil & Water Engineering		
Review environmental Green Sheets		REU Field Operations		
Review environmental Green Sheets		Construction Unit		
Review environmental Green Sheets		PDEA NEU ICI/On-Site Mitigation		
پورناو environmental Green Sheets		Division Resident Engineer		
Heview environmental Green Sheets		PDEA NEU Engineering		
Coordinate barrier control		TEB Signing		
Coordinate barrier control		Roadway Design		
Review Traffic Control plans		Construction Unit		
Review Traffic Control plans		SD Design 1		
Review Traffic Control plans		Roadway Design		
Design erosion control plans		REU Soil & Water Engineering		
Erosion control plans on Microstation		REU Soil & Water Engineering		
Revise landscaping/site plans		PIEU Field Operations		
Revise landscaping/site plans		REU Design		
Verification of PAW		L&C Area Engineers		
Prepare PLFI response		Division Construction Engineer		
Incorporate revisions from Livision		Hoadside Environment Unit		
Incorporate revisions from Division		Roadway Design		
Incorporate revisions from Livision		PUEN NEUTONO Site Militagetion		
Incorpora	ke revisions from Division	GEO Regional Offices		
Incorporate folicione from Unicion		PUE O NEU Engincoring		
Update CIA		PDEA HEU Community Studies		

Results of PLFI

Pre-Let Field Inspection (PLFI)			Roadway Design	
Prepare for field inspection (PLFI)			Division Construction Engineer	
Prepare for field inspection (PLFI)			Roadway Design	
Review plans for constructability			Construction Unit	
Review plans for constructability	Contains :	11	Division Construction Engineer	
Review plans for constructability			Division Resident Engineer	
Conduct field inspection meeting	Objects		Division Resident Engineer	
Conduct field inspection meeting			Construction Unit	
Conduct field inspection meeting			Division Construction Engineer	
Conduct field inspection meeting			Roadway Design	
Prepare PLFI response			Division Construction Engineer	
Incorporate revisions from Division			Roadway Design	
Update CIA			PDEA HEU Community Studies	
·				

Any unit not having a specific element that attends or provides comments will charge to the Activity.

Deliverable Tracking PROs

- Reduce number of objects in system by 50 to 80 percent in some activities
- Improves performance and reporting within SAP R/3
- Less maintenance by users
- Should help with Performance Metrics reporting
- Reduce the overall maintenance of standards and user support requirements
- Could be implemented on existing projects since we would be removing activity elements (if no time charges have occurred).

Deliverable Tracking

If we decide this is the direction we need to head the only con may be time and effort.

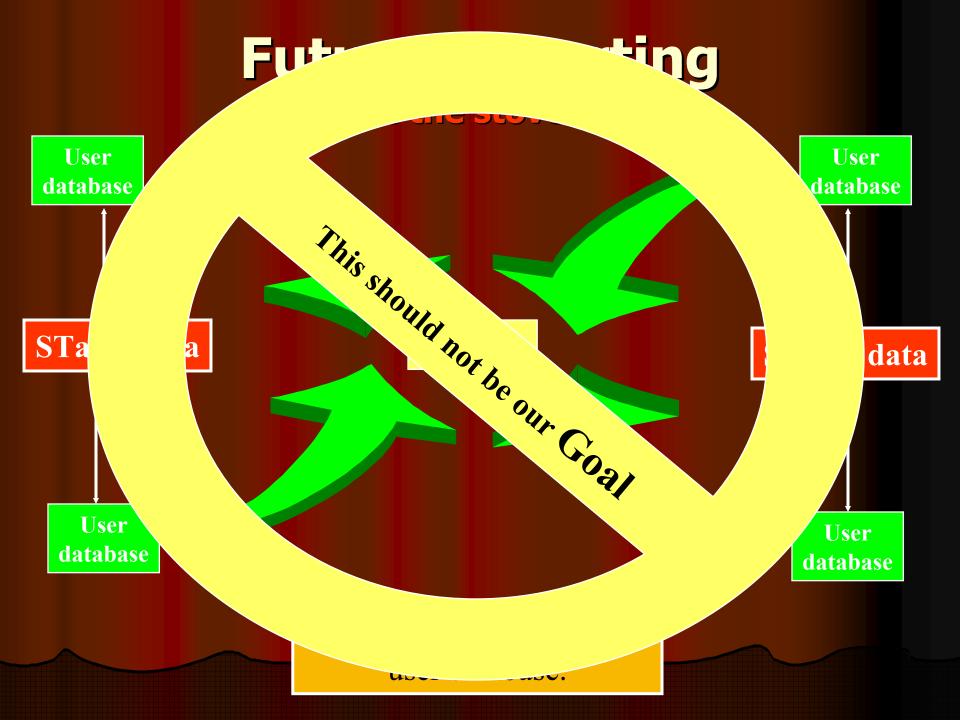
- Team effort required to determine appropriate deliverables
- Develop implementation strategy
- Possibly training workshops

Task Tracking PROs

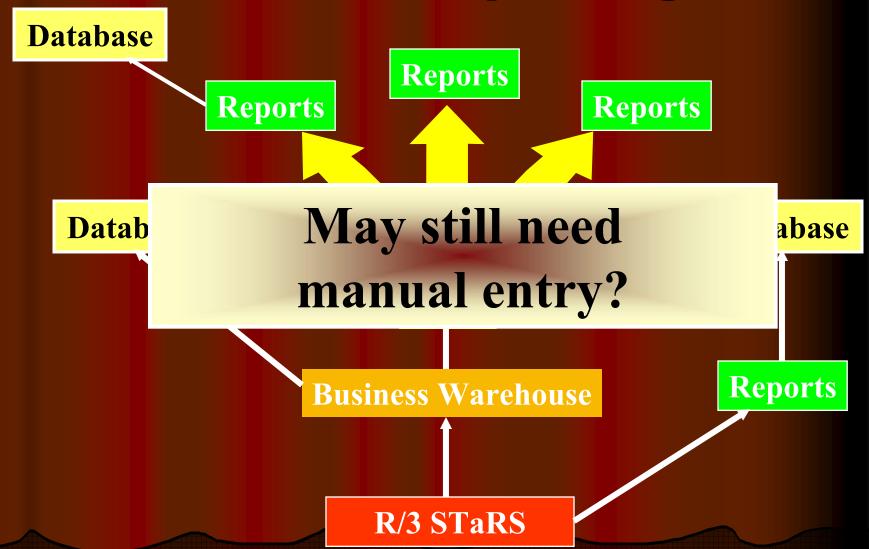
- Provides detailed information on efforts to complete activities. (Micro-Management)
- Activity managers can assign individuals with detail task assignments by running reports.
- Provides detailed views of project status for anyone to view in system.

Task Tracking CONs

- Time Sheet Assistant generates more data than is necessary
- User spends time determining proper element to charge time to or confirm
- Project structure (GANTT chart) becomes cluttered with lines of data
- Average New Location project with no breakdowns contains approx. 1000 lines of data
- Maintenance of Standard Networks very time consuming to maintain objects and descriptions



Future Reporting



IN SUMMARY

- Workshops
 - (1) Executive & Manager Level (May 14, 2008)



(2) Co- PMs & Activity Managers (June 25, 2008)



Communicate a new scheduling philosophy

No constraints in forecast schedules

Develop Guidelines for Project Time Charges – Use Time Sheet Assistant

IN SUMMARY

Develop Schedule Chaintenance) Policy

Aligns with Dashboard criteria

Shall use unconstrained forecast scheduling

Define how often to reschedule & who tracks

Define coordination process (PS Text)

Define schedule change process for 12 MLL projects

Define Basic Schedule update process

DRAFT 2009 - 2015 STIP Scheduling Process

June 4

STIP is published

June 25 - July 18

New STIP Projects

- PDEA Co-PM e-mails Program Development requesting networks for any new projects
- Program Development creates new project networks and e-mails all Unit Heads owning activities for assignment of lower level work centers
- PDEA Co-PM applies backward scheduling to new project to identify start date. Coordinates schedule development with RDU Co-PM.

Existing STIP Projects

Activity Managers update durations, confirmations, activations, and make lower assignments on their activities on <u>ALL</u> projects.

July 21

July 21 – August 8

UNCONSTRAINED FORECAST SCHEDULING BEGINS

RDU Co-PM will reschedule the Forecast Schedule (unconstrained) on all projects that have <u>completed</u> Planning Documents. The entire project (all networks) shall be scheduled. All finish constraints should not be reapplied.

PDEA Co-PM will reschedule the Forecast Schedule (unconstrained) on all projects that have <u>incomplete</u> Planning Documents. The entire project (all networks) shall be scheduled. All finish constraints should <u>not</u> be reapplied.

August 11 Initial Preliminary Problem Project List is generated from the Preconstruction Dashboard and submitted to Co-PMs to resolve schedule issues.

August 18 - 22 PDEA Co-PM and RDU Co-PM meet to resolve schedule issues with Problem Projects. These meetings will be arranged based on regions (Eastern, Central and Western). Location of meeting and attendance of critical Activity Managers is to be determined.

August 28 Final Problem Project List is generated from Preconstruction Dashboard.

Early September Project Meeting is Held

Mid to late September Basic Schedules updated per Problem Project Meeting. After updating, the Forecast Schedule constraints of the problem projects are removed

NOTE: Any "Non-Problem" project that requires a schedule change must have an approved schedule change form and should be submitted when identified. The R/W & Let constraints should be applied to the Forecast Schedule by the RDU Co-PM until the Basic has been updated. Upon notification that this has occurred, the Forecast Schedule constraints shall be removed by the RDU Co-PM.



Thank you for your time and comments.

If you have any questions email TIPSTaRSHelp.

We will compile comments, questions and suggestions and publish them on the Program Development's website.

Thank you for your attendance....

and remember to say your prayers



Questions Or Comments?

The early bird may get the worm, but the second mouse gets the cheese in the trap.

A clear **conscience** is usually the sign of a bad memory

42.7 percent of all statistics are made up on the spot.

OK, so what's the speed of dark?